

5-7-38

Crop	Pest	Rate	Timing/Special Directions
Tomatoes (Cont'd)	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.
	Wireworms	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 4-8 inches.
Turnips and Turnip Tops	Aphids, Flea Beetles, Leaf- hoppers, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 ap- plications per season. Do not apply within 14 days of harvest.
	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.

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Storage and Disposal

Storage

Do not store near heat or open flame. Store in original container in an area inaccessible to children and pets. USE CONTENTS WITHIN 6 MONTHS AFTER OPENING.

Disposal

Do not reuse empty container. Thoroughly rinse container, securely wrap it in several layers of newspaper and discard in trash. If disposal of a partially full container is necessary, make sure cap is tightly closed, securely wrap the container in several layers of newspaper and discard in trash.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, inhaled, or absorbed through skin. Causes moderate eye injury. Avoid breathing spray mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Do not use inside the home. Avoid contamination of feed and foodstuffs. Do not use on household pets or humans. Do not allow children or pets to go onto a treated area until the treated area, such as grass or soil, has dried. Do not contaminate ornamental fish ponds. Food utensils such as spoons and measuring cups must not be used for food purposes after use in measuring pesticides.

Statement of Practical Treatment

If swallowed: Call a physician immediately. DO NOT INDUCE VOMITING UNLESS NO OTHER TREATMENT IS AVAILABLE. Vomiting may cause aspiration pneumonia. If it is necessary to induce vomiting, give victim one or two glasses of water and insert finger in back of throat. Do not induce vomiting or give anything by mouth if person is unconscious or convulsing.

Continued

If inhaled: Remove victim to fresh air and apply artificial respiration if indicated. Get medical attention.

If on skin: Wash promptly with soap and water. Rinse thoroughly. Get medical attention.

If in eyes: Rinse eyes with plenty of water and call a physician immediately.

Note to Physician: This product is an organophosphate insecticide. If symptoms of cholinesterase inhibition are present, atropine sulfate by injection is antidotal. 2-PAM is also antidotal and may be administered, but only in conjunction with atropine. This product contains aromatic petroleum distillates which may present an aspiration hazard. Gastric lavage may be indicated if product was taken internally.

#### Environmental Hazards

This product is highly toxic to birds, fish, and other wildlife. Birds, especially waterfowl, feeding or drinking on treated areas may be killed. Because of the migratory habits of certain Atlantic Coast waterfowl, do not apply this product to lawns in Nassau County, New York, between November 1 and May 20. Do not exceed maximum permitted label rates. Application rates above those recommended significantly increase potential hazards to birds and waterfowl. Avoid overlapping of sprays. For lawns, where irrigation (watering) is recommended in the directions, or if waterfowl, i.e., ducks or geese, can be expected in the treated area after treatment (except spot treatment), water lawn with at least 1/4 inch of water immediately after spraying this product, however, stop watering before puddling occurs. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Runoff may be hazardous to aquatic organisms in neighboring areas. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where fish, shrimp, crab, and other aquatic life are important resources. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters.

This pesticide is highly toxic to bees exposed to direct treatment or to residues on blooming crops or weeds. Do not apply this pesticide or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

#### Physical or Chemical Hazards

Do not use, pour, spill, or store near heat or open flame.

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EPA Reg. No. 100-456

Agricultural Division  
CIBA-GEIGY Corporation  
Greensboro, North Carolina 27419

CGA A1L9K 022

(booklet goes with label CGA A1L1 R18T 022 1 pt. container and  
A1L3 R16V 022 1 qt. container)

July 29, 1981

Revised May 13, 1982

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Revised Feb. 22, 1984  
(PR Notice 83-3 Storage  
and Disposal, Changed  
copyright date).

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Revised April 4, 1988  
This product must not be  
used on golf courses and  
sod farms. Accepted

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Revised September 13, 1988  
Changed chem. name,  
reduced turf rates and  
added avian precautions,  
deleted unsupported crops  
under May 1, 1987 EPA Data  
Call-In.

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Revised November 4, 1988  
Changed chem. back to  
orig., all corn specified  
as "sweet" corn per EPA.  
Reduced lawn rates to 4  
lbs. ai max

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Revised March 9, 1989  
Deleted xylene from ai,  
moved to inerts, revised  
Hazards to Humans..., Note  
to Physician, storage and  
disposal, revised dfu's to  
reflect rates and app.  
intervals in data call-in,  
repeat residue chemistry  
tests.

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Revised November 30, 1989  
Corrected rates per EPA  
letter of 6/9/89 and  
added Reg. Standard  
Changes.

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Revised December 6, 1989  
Corrected rates to concur  
with AG500 label.

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Revised January 9, 1990  
Readded rates on per 125  
sq. ft. basis for home  
lawns.

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Revised January 10, 1990  
Corrected "North" chinch  
bug rate deleted boxelder  
bugs from lawn dfu's.

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Revised April 12, 1990  
Per EPA letter of  
1/26/90.

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Accepted May 14, 1990  
CGA A1L9J050

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Revised Oct. 10, 1990 per EPA  
letter of 9/4/90  
requested additional  
changes in FPL submitted  
8/28/90

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Revised Nov. 12, 1990 per EPA's  
letter of 10/26/90

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Revised March 19, 1991 per EPA  
letter of 12/3/90  
CGA A1L9J 120

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Revised Apr. 25, 1991 per EPA  
letter of 4/10/91  
CGA A1L9J 041

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Revised May 31, 1991  
changed signal word and  
precautionary statements

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Revised June 26, 1991  
editorial changes per EPA  
letter of 6/21/91

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Revised August 9, 1991 per EPA  
letter of 8/5/91 - minor  
corrections -  
CGA A1L9K 081

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Revised October 21, 1991 per EPA  
Acceptance letter of  
8/21/91 minor corrections  
CGA A1L9K 101

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Revised February 25, 1992 per EPA  
letter of 2/14/92 - minor  
changes CGA A1L9K 022

) [GANNONC.LABELD] DZNLGIC - 4/22/92

MAY 15 1992

Ms. Carolyn Bussey  
Ciba-Geigy Corporation  
P.O. Box 18300  
Greensboro, NC 27419-8300

Dear Ms. Bussey:

Subject: Amendment- Revisions based on residue data;  
Product Chemistry data - impurities/limits  
D.z.n Lawn & Garden Insect Control  
EPA Reg. No. 100-456  
Label revisions dated April 23 and May 12, 1992,  
and associated FAXs of May 1, 8, and 11, 1992; and  
Product chemistry data submitted December 2 and 19, 1991  
and associated letters dated February 29 and March 9, 1992

The labeling referred to above, submitted in connection with a registration under the Federal Insecticide, Fungicide, and Rodenticide Act is acceptable and a stamped copy of the container and booklet label is enclosed for your records.

Please make the following revision when preparing the actual finished label (or finished customer guide label):

- 1) On both the container and booklet label, modify the home use limitation to read "For outdoor use on the home lawn and the home garden only.". You will note that the preferred location for the word "only" is at the end of the limitation, as indicated in our previous letter, dated February 14, 1992. Deleting the word "in" from "in the home garden" would appear appropriate since this product can be applied foliarly (i.e., on vegetable and ornamental plants) as opposed to the granular products which are only applied "in" the garden (i.e., soil incorporated). Also, such a revision eliminates any possible user misunderstanding of the limitation stating "...in the home..", while item "2" of NOTES under the heading "General Information" specifies "Do not use in the home".
- 2) The Measurement Conversion table on page 4 of the booklet label would be more useful if it also included a conversion of the lawn rate: 1½ Tablespoons in 3 gallons of water = 1½ teaspoons

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in 1 gallon of water. Most hose-end sprayers (which would be commonly used for overall lawn treatment) require the user to know the amount of product to be diluted in one gallon of water to be able to determine the amount of product to add to the spray container. The Agency recommends deleting the conversion "or 6 ozs. in 18 gals. of water" for several reasons. First, most hose-end sprayers for foliar application deliver only 6 gallons of diluted product (pump sprayers are commonly available only up to 3 gallon capacity). While some lawn use hose-end sprayers may be capable of delivering 18 gallons of diluted product, the rate given in the conversion table is an extension of the 2 tablespoons in 3 gallons of water vegetable foliar spray rate, and is NOT the extension of the lawn rate of 1½ tablespoons in 3 gallons of water, which is 6 ozs. in 24 gallons of water.

- 3) Under the heading "Nuisance Pests Outside the Home", in the limitations appearing in the REMARKS for control of ants, brown dog ticks, and fleas etc., revise "Do not treat animals." to read "Do not treat animals with this product.". It may be appropriate for homeowners to also treat their pets with a suitable pesticide product registered for flea and tick control on pets.
- 4) Revise the first sentence of the fire ant control directions to read "To aid in the control of fire ants in home lawns and other outdoor home recreation areas, ".
- 5) The Agency has considered your April 28, 1992 request that the Note "Diazinon will not control organophosphate resistant leafminers" not appear on this products label. Organophosphate resistant leafminer populations do exist and the Agency feels it is appropriate to note this on the label. However, the Agency can see your point that the text as stated on diazinon agricultural use products may not be understood by some homeowners. Therefore, the Agency recommends that you modify the Note that will appear in the "Timing/Special Directions" for control of leafminers on various crops to read something like the following:

NOTE: Certain leafminers will not be controlled by diazinon or similar type insecticides.

- 6) Please note that the booklet label, as accepted, includes a revised page 12 (FAXed to the Agency May 12, 1992) and revised pages 16, 24, and 25 (submitted May 12, 1992). The container label, as accepted, includes a revised page 4 (submitted May 12, 1992).



The Confidential Statement of Formula (CSF) dated December 16, 1991 is acceptable and supersedes all previous CSFs for the subject product. The December 4, 1992 addendum (MRID 42118102) to MRID 419645019, together with the December 19, 1992 supplement (MRID 42143202) to the December 2, 1992 submission satisfies the requirements imposed by the Diazinon Registration Standard under Section 61-3 of the Pesticide Assessment Guidelines, Subdivision D. A copy of the product chemistry review is enclosed for your records. The lower Certified Limit for the active ingredient diazinon which you declare as 24.2% (rather than 24.25%) is an acceptable rounding based on your February 29, 1992 letter indicating that Ciba-Geigy is satisfied that the lower Certified Limit claimed for the active ingredient on all of your Confidential Statements of Formula is sufficient to ensure acceptable control of the pests listed on the labels for the respective products, including the subject product.

The proposed formulator certification regarding the impurities analysis and the lack of reaction between diazinon and/or its impurities, based on use of D.z.n diazinon MG 87% (EPA Registration Number 100-524) with the intentionally added inerts (as modified below) is acceptable. The text for this statement, which will appear on the bottom of your customers' CSFs indicating D.z.n diazinon MG 87% as the source of active ingredient, is as follows:

I certify that the upper certified limits for the impurities listed on this Confidential Statement of Formula are based on CIBA-GEIGY's analysis and certification of limits for this product based on D.z.n diazinon MG 87%. I further certify under Pesticide Assessment Guidelines, Subdivision D, Sections 61-3 and 61-2(b) that there are no chemical reactions between diazinon and/or its impurities with the intentionally added inerts.

Sincerely yours,

George T. LaRocca  
Product Manager (13)  
Insecticide Rodenticide Branch  
Registration Division (H7505C)

BOOKLET

(For use with 1 pt., and 1 qt. containers)

D·z·n® Lawn and Garden Insect Control

This product must not be used on golf courses and sod farms. only.

For outdoor use on the home lawn and in the home garden.

Spray concentrate. Contains diazinon insecticide.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

MAY 15 1992

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
100-456

Protects

- Lawns
- Vegetables
- Fruits & Nuts
- Roses
- Flowers
- Trees
- Shrubs

Controls

- Ants, Aphids
- Chinch Bugs
- Cutworms
- Fire Ants<sup>1</sup>
- Flea Beetles
- Grubs, Mites
- Sod Webworms
- and many others

<sup>1</sup>Aids in control.

Active Ingredient:

Diazinon: O,O-Diethyl O-	
(2-isopropyl-6-methyl-	
4-pyrimidinyl) phosphorothioate .....	25.0%
Inert Ingredients*:	75.0%
Total:	100.0%

\*Contains aromatic petroleum distillates.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See end of booklet for additional precautionary statements.

DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

**IMPORTANT:** Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product. If terms are not acceptable, return unopened product container at once.

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Conditions of Sale and Warranty

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The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of CIBA-GEIGY or the Seller. All such risks shall be assumed by the Buyer.

CIBA-GEIGY warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. CIBA-GEIGY makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall CIBA-GEIGY or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product. CIBA-GEIGY and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of CIBA-GEIGY.

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DIRECTIONS FOR USE

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

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR INSECT CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

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General Information

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D·z·n Lawn and Garden Insect Control is an emulsifiable concentrate product which must be diluted with water before application. Refer to the section "How to Mix and Apply." This product kills many outdoor insects which damage lawns, roses, flowers, trees, shrubs, vegetables, fruits and nuts, and insects which annoy pets and people. Contains diazinon insecticide which provides positive control of many "hard-to-kill" sucking and chewing insects. D·z·n works fast and applications should be repeated only as directed to maintain control.

Notes: (1) USE CONTENTS WITHIN 6 MONTHS AFTER OPENING. SEE "STORAGE AND DISPOSAL" DIRECTIONS. (2) Do not use in the home. (3) Do not use on ferns, poinsettia, hibiscus, papaya, pilea, gardenia or orchids since injury may occur. (4) Use this product on succulent peas and beans only. Do not use on dried pea or bean varieties. (5) Do not apply to food crops grown in greenhouses.

Precautions: 1) Wear a long-sleeved shirt and long-legged pants when spraying. 2) Spray with the wind to your back. 3) Do not spray on windy days. 4) If clothing becomes wet from spray during use, remove clothing after spraying, wash affected body areas thoroughly with soap and water, and launder clothing before wearing again.

How to Mix and Apply:

Step #1: Determine size of spraying job. For lawns and vegetables, measure the area to be sprayed. For all other applications, apply as a thorough cover spray. Make applications when insects first appear. Applications should be repeated only as directed to maintain control.

Step #2: Use clean sprayer. Carefully measure and mix the amount of D·z·n and water as indicated in the rate chart.

Step #3: Spray as directed in rate chart. Thorough coverage is important. Flush sprayer with clean water after each use.

See chart for complete list of use sites, crops, and insects controlled. Use the rate given in the chart for the type of insect you want to control on the site or crop you are spraying.

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Measurement Conversions

1 tablespoon = 3 teaspoons

1 fl. oz. = 6 teaspoons or 2 tablespoons

6 fl. oz. = 3/4 cup

2 tablespoons in 3 gals. of water = 2 teaspoons in 1 gal. of water or 6 ozs. in 18 gals. of water

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Lawn Pest Control

Use on Bent, Bermuda, Bluegrass, Dichondra, Fescue, Merion and St. Augustine grass.

To control pests listed below, apply recommended rates.

Precautions: Birds, especially waterfowl, feeding or drinking on treated areas may be killed. Apply this product only as specified on this label. Because of the migratory habits of certain waterfowl, do not apply in Nassau County, New York, between November 1 and May 20. Do not exceed maximum permitted label rates, since rates above those recommended significantly increase potential hazards to birds and waterfowl. Avoid overlapping of sprays. Where irrigation (watering) is recommended in the directions, or if waterfowl, i.e., ducks or geese, can be expected in the treated area after treatment (except spot treatment), water lawn with at least 1/4 inch of water immediately after spraying this product, however, stop watering before puddling occurs.

Pests	Rate		Remarks
	D·z·n	Water	
Lawn Chinch Bugs	1 1/2 table- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Thoroughly wet down grass a few hours before applying.  In the North, if Chinch Bugs are the only problem, a lower rate of application can be used: 3 tea- spoons in 3 gals. of water covers 125 sq. ft. or 4 fl. ozs. in 24 gals. of water per 1,000 sq. ft.

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Pests	Rate		Remarks
	D·z·n	Water	
Ants, Armyworms, Bermudagrass Mites, Clover Mites, Spring-tails (Collembola), Crickets, Cutworms, Digger Wasps, Earwigs, Frit Flies, Lawn Billbugs, Leafhoppers, Sod Webworms (Lawn Moths), Sowbugs (Pillbugs)	1 1/2 table- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Thoroughly wet down grass a few hours before applying.  For ants and digger wasps, spot spray ant hills and wasp ground nest openings. For digger wasps, apply at dusk, when wasps are not active. Billbug control: Apply when activity is first observed or when chewed or brown grass is present indicating damage from the insect.  For frit flies, mow grass and water thoroughly before treatment, but delay application until grass is dry.
Brown Dog Ticks, Chiggers, Fleas	1 1/2 table- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Note: Do not apply to animals.  For brown dog ticks, spray grass and under shrubbery, particularly near house.

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Pests	Rate		Remarks
	D·z·n	Water	
Hyperodes Weevil	1 1/2 table- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Treat problem areas in mid- April and again in mid-May. Water grass thor- oughly after application.
Millipedes	1 1/2 table- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Thoroughly wet grass a few hours before applying.
Rhodesgrass Scales	1 1/2 table- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Apply when crawl- ers first emerge.
White Grubs of Japanese Beetle, European Chafer, Southern Chafer	1 1/2 table- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Apply any time between late July and early October. Water grass thoroughly after applica- tion.



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Nuisance Pests Outside the Home

Ants, Boxelder Bugs, Brown Dog Ticks, Chiggers, Clover Mites, Cockroaches, Crickets, Earwigs, Fleas, Flies, Millipedes, Sowbugs (Pillbugs), Spiders, Springtails (Collembola)

Mix 6 fl. ozs. in 3 gals. of water and thoroughly spray window and door screens, sills, foundations, porch and patio walls, entranceways, walks, garbage cans, tree trunks, and into cracks and other places where insects can hide.

To prevent entry into houses, spray a five-foot band of soil around the house next to the foundation and spray the foundation of the house to a height of 2-3 feet. Repeat application as necessary.

Do not treat animals. Do not treat plants (other than tree trunks) at this nuisance pest rate.

Fire Ants

To aid in the control of fire ants in lawns and other outdoor home recreation areas, apply 2 tablespoons in a minimum of 1 gal. of water as a drench. Apply over and 6 inches around each mound. Apply gently to avoid disturbing ants. Reapply as necessary. Larger quantities of solution can be prepared for multiple mound treatments. Use equipment capable of delivering the diluted product as a gentle rain at the rate of 1 gal. per mound. High pressure sprays may disturb the ants and cause migration, reducing product effectiveness.

Note: For best results, apply in cool weather 65-80°F, or in early morning or late evening hours. Treat new mounds as they appear.

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Insect Control on Ornamental Trees, Shrubs and Flowers

Trees and Shrubs	Insects	Rate per 3 gals. of water	Timing/Special Directions
Arborvitae, Azalea, Birch, Boxwood, Camellia, Douglas Fir, Elm, Hawthorn, Holly, Juniper, Lilac, Locust, Maple, Mimosa, Oak, Pine, Ornamental Plum, Poplar, Rhododendron, Spruce, Willow	Aphids, Bagworms, European Pine Shoot Moths, Holly Bud Moths, Dipterous Leaf- miners (Arborvitae, Azalea, Birch, Boxwood, Holly, Oak), Leafhop- pers, Mealybugs, Mites (Clover, Cyclamen, Euro- pean Red, Privet, Two-spotted Spider), Obscure Root Weevils, Omnivorous Leaf-tiers, Scale Crawlers (Cottonycushion, Euonymus, Lecanium, Pine Needle, Pit, San Jose, Soft)	2 table- spoons	Apply as a thorough foliar spray. Wet leaves and branches to the dripping point. Try to pene- trate dense foliage with spray
Webworms (Juni- per, Mimosa), Whiteflies		2 table- spoons	Apply as a thorough foliar spray, Mimosa Webworms: Apply as a thorough foliar spray when adults first appear. Make two addi- tional applica- tions at 4-5 week intervals.

Insect Control on Ornamental Trees, Shrubs and Flowers (Continued)

<u>Trees and Shrubs</u>	<u>Insects</u>	<u>Rate per 3 gals. of water</u>	<u>Timing/Special Directions</u>
Arborvitae, Azalea, Birch, Boxwood, Camellia, Douglas Fir, Elm, Hawthorn, Holly, Juniper, Lilac, Locust, Maple, Mimosa, Oak, Pine, Ornamental Plum, Poplar, Rhododendron, Spruce, Willow (Continued)	Apple and Thorn Skeletonizers, Hemlock Chermes, Oak Loopers, Obliquebanded Leafrollers, Pear Slugs, Tent Caterpillars, Webworms (Cotoneaster, Fall)	2 table- spoons	Apply as a thorough foliar spray.

<u>Roses and Flowers</u>	<u>Insects</u>	<u>Rate per 3 gals. of water</u>	<u>Timing/Special Directions</u>
Azaleas, Camellias, Chrysanthemums, Carnations, Gladioli, Lilac, Rhododendron, Roses	Aphids, Euonymus Scale Crawlers, Flea Beetles, Dipterous Leafminers, Leafhoppers, Mealybugs, Mites (Carnation Bud, Carnation Shoot, Cyclamen, European Red, Two-spotted Spider), Thrips, Whiteflies	2 table- spoons	Apply as a thorough foliar spray. Try to spray underside of leaves and penetrate dense foliage.

Fruits and Nuts

Start spraying after blooming. Applications should be made according to infestation or when aphids, mites, and crawler stages of scale insects are first noted.

Observe stated time intervals between last application and harvest of the crop, as well as intervals between applications and total number of applications that can be made per season.

Crop	PHI*
Almonds	--**
Apricots	21
Blackberries	7
Boysenberries	7
Cherries	21
Dewberries	7
Grapes	28
Loganberries	7
Nectarines	21
Peaches	21
Plums	21
Prunes	21
Raspberries	7
Strawberries	5
Walnuts	45

\*PHI = Pre-Harvest Interval, or the number of days between the last application and harvest.

\*\*Dormant spray only.

Note: To protect bees, do not apply to fruit trees when trees or substantial numbers of weeds around the trees are in bloom.

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Crop	Pest	Rate	Timing/Special Directions
Almonds (CA only)	San Jose Scale, Parlatoria Scale	2 table- spoons in 3 gals. of water	Apply only as a dormant spray. Do not apply more than 6 gallons per 500 sq. ft. of orchard.  This product may be used on almonds only in California. Do not use this product on almonds grown in other states.
Apricots	Aphids, Apricot Mealybugs, Mites (Brown, Two-spotted Spider), Scale Crawlers (Olive, San Jose)	4 tea- spoons in 2 gals. of water	Apply as a full cover spray. Do not apply more than 4 gallons per 500 sq. ft. of orchard. Do not make more than 3 applications per season a minimum of 14 days apart. Do not apply within <del>14</del> 7 days of harvest.
Caneberries (CA, OR, WA only): Blackberries, Boysenber- ries, Dewberries, Loganberries, Raspberries	Aphids, Leaf- hoppers, Raspberry Fruitworms, Two-spotted Spider Mites, Thrips	2 table- spoons in 3 gals. of water	Apply as a full cover spray. Do not apply more than 5 gallons per 500 sq. ft. of field. Do not make more than 5 applica- tions per season a mini- mum of 14 days apart. Do not apply within 7 days of harvest.  This product may be used on caneberries only in CA, OR and WA. Do not use this product on cane- berries grown in other states.

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Crop	Pest	Rate	Timing/Special Directions
Cherries	Black Cherry Aphids, Cherry Fruitflies, Cherry Fruitworms (Maggots), Fruittree Leaf- rollers, Mites (Cherry Rust), Scale Crawlers (San Jose)	4 tea- spoons in 2 gals. of water	Apply as a full cover spray. Do not apply more than 4 gallons per 500 sq. ft. of orchard. Do not make more than 3 applications per season a minimum of 7 days apart. Do not apply within 21 days of harvest
Grapes	Aphids, Leaf- hoppers, Grape Berry Moths, Grape Leaf- Folders	4 1/2 teaspoons in 3 gals. of water	Apply as a full cover spray. Do not apply more than 3 gallons per 500 sq. ft. of vineyard. Do not make more than 5 applications per season a minimum of 7 days apart. Do not apply within 28 days of harvest.
Nectarines	Aphids, Mites (Brown, Two-spotted Spider), Scale Crawlers (Olive, San Jose)	4 tea- spoons in 2 gals. of water	Apply as a full cover spray. Do not apply more than 4 gallons per 500 sq. ft. of orchard. Do not make more than 3 applications per season a minimum of 14 days apart. Do not apply within 21 days of harvest

Crop	Pest	Rate	Timing/Special Directions
Peaches	Aphids, Mites (Brown, Two-spotted Spider), Scale Crawlers (Olive, San Jose)	4 tea- spoons in 2 gals. of water	Apply as a full cover spray. Do not apply more than 4 gallons per 500 sq. ft. of orchard. Do not make more than 3 applications per season a minimum of 14 days apart. Do not apply within 21 days of harvest.
Plums and Prunes	Aphids (Leafcurl Plum, Mealy Plum, Thistle), Mites (Brown, European Red)	4 tea- spoons in 2 gals. of water	Apply as a full cover spray. Do not apply more than 6 gallons per 500 sq. ft. of orchard. Do not make more than 5 applications per season a minimum of 7 days apart. Do not apply within 21 days of harvest.
Strawberries	Aphids, Two-spotted Spider Mites, Strawberry Leafrollers	2 table- spoons in 3 gals. of water	Apply as a full cover spray. Do not apply more than 3 gallons per 500 sq. ft. of field. Do not make more than 3 applica- tions per season a mini- mum of 7 days apart. Do not apply within 5 days of harvest.

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Crop	Pest	Rate	Timing/Special Directions
Walnuts (CA only)	Aphids, Scale Crawlers (Walnut, Italian Pear, Frosted), Spider Mites, Twig Borers	2 table- spoons in 3 gals. of water	Apply as a full cover spray. Do not apply more than 6 gallons per 500 sq. ft. of orchard. Do not make more than 3 ap- plications per season 14 days apart. Do not apply after husks open or split. Do not apply within 45 days of har- vest.  This product may be used on walnuts only in Cali- fornia. Do not use this product on walnuts grown in other states.



Vegetables

For foliar or soil applications, D·z·n Lawn and Garden Insect Control should be applied in the volume of water recommended in the table below to assure thorough coverage of the foliage or soil.

Observe stated time intervals between last application and harvest as well as intervals between applications and maximum numbers of applications per season. Do not apply to food crops grown in greenhouses.

Pre-Harvest Intervals (PHI\*)  
for Foliar Applications

Crop	PHI* (Days)
Beans <sup>1</sup> (succulent varieties only; Lima, Pole & Snap)	7
Broccoli	7
Cabbage	21
Cantaloupes	3
Carrots	14
Casabas	3
Cauliflower	7
Chinese Broccoli	10
Chinese Cabbage	10
Collards	10
Crenshaws	3
Cucumbers	7
Endive (Escarole)	14
Honeydew Melons	3
Kale	10
Lettuce	14
Muskmelons	3
Onions (Bulb and Green)	14
Parsnips	14
Peas <sup>1</sup>	7
Peppers	5
Potatoes (Irish)	35
Radishes	14
Spinach	14
Squash, Summer	7
Squash, Winter	3
Sweet Corn	7
Tomatoes	1
Turnips, (Roots + Tops)	14
Watermelons	3

\*PHI = Pre-Harvest Interval, or the number of days between the last application and harvest.

<sup>1</sup>Do not use this product on dried pea or bean varieties such as pinto beans, dried limas, split peas, or dried black-eyed peas.

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Vegetables

For application to the foliage, thoroughly spray all plant parts. Application to the soil should be mixed into the soil immediately after application.

Crop	Pest	Rate	Timing/Special Directions
Beans, Lima, Pole and Snap (succulent varieties only)	Aphids, Cucumber beetles, Grass-hoppers, Leaf-hoppers, Mexican Bean Beetles, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 5 days up to 3 applications per season. Do not apply within 7 days of harvest.
	Cutworms (surface, subterranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediately work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Mole Crickets	2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil 1-2 days before planting. Immediately work into soil 1-2 inches.
	Wireworms (snap beans only)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediately work into soil 4-8 inches.

Note: (1) Do not apply this product to dried bean varieties such as pinto beans or dried limas. (2) To protect bees, do not apply bean foliage treatments if the beans or weeds in the treatment area are in bloom.

Crop	Pest	Rate	Timing/Special Directions
Beets, Red (Table)	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.
	Mole Crickets	2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil 1-2 days before planting. Immediately work into soil 1-2 inches.
Broccoli	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 7 days of harvest.
Cabbage	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 21 days of harvest.
	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.

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Crop	Pest	Rate	Timing/Special Directions
Cabbage (Continued)	Root Maggots	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches.
	Wireworms	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 4-8 inches.
Carrots	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 14 days of harvest.
	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.
	Mole Crickets	2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil 1-2 days before planting. Immediately work into soil 1-2 inches.

Crop	Pest	Rate	Timing/Special Directions
Carrots (Continued)	Wireworms	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 4-8 inches.
Cauliflower	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 7 days of harvest.
Chinese Broccoli	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 10 days of harvest.
Chinese Cabbage (Bok Choy and Napa)	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 10 days of harvest.

Crop	Pest	Rate	Timing/Special Directions
Collards	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 10 days of harvest.
Corn (see sweet corn)			
Cucumbers	Aphids, Thrips, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 7 days of harvest.
Endive (Escarole)	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 14 days of harvest.
Kale	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 10 days of harvest.

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Crop	Pest	Rate	Timing/Special Directions
Lettuce	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 14 days of harvest.
	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.
	Wireworms	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 4-8 inches.
Melons (Canta- loupes, Casabas, Crenshaws, Honeydews, Muskmelons, Persians, and Hybrids of these) and Water- melons	Aphids, Thrips, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 3 days of harvest.

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Crop	Pest	Rate	Timing/Special Directions
Onions (Bulb and Green)	Onion Thrips	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 14 days of harvest.
Parsnips	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 14 days of harvest.
Peas (succulent only)	Aphids, Cucumber Beetles, Grass- hoppers, Leaf- hoppers, Mexican Bean Beetles, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 5 days up to 3 applications per season. Allow at least 7 days between the last applica- tion and harvest.
	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.
	Mole Crickets	2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil 1-2 days before planting. Immediately work into soil 1-2 inches.



Crop	Pest	Rate	Timing/Special Directions
Peas (succulent only) (Continued)	Wireworms	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 4-8 inches.

NOTE: (1) Do not apply this product to dried pea varieties such as split peas or dried black-eyed peas. (2) To protect bees, do not apply foliage treatments if peas or weeds in the treatment area are in bloom.

Peppers	Aphids, Colorado Potato Beetles, Flea Beetles, Leaf- hoppers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 5 days of harvest.
Potatoes	Aphids, Flea Beetles, Leaf- hoppers, Colorado Potato Beetles, Southern Armyworms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 35 days of harvest.
Radishes	Aphids, Flea Beetles, Leaf- hoppers, Imported Cabbage- worms, Dipterous Leafminers	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 14 days of harvest.

28.35

Crop	Pest	Rate	Timing/Special Directions
Radishes (Cont'd)	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.
Spinach	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 14 days of harvest.
Squash, Summer	Aphids, Thrips, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 7 days of harvest.
Squash, Winter	Aphids, Thrips, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 3 days of harvest.
Sweet Corn	Aphids, Thrips, Flea Beetles, Grass- hoppers, Spider Mites	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Corn may be picked immedi- <del>ately</del> <i>7 days</i> following last application.

29.7.30

Crop	Pest	Rate	Timing/Special Directions
Sweet Corn (Cont'd)	Cutworms (surface, subter- ranean)	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 2-3 inches for surface cut- worms, 3-6 inches for sub- terranean cutworms.
	Mole Crickets	2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil 1-2 days before planting. Immediately work into soil 1-2 inches.
	Wireworms	6 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immedi- ately work into soil 4-8 inches.

NOTE: To protect bees do not apply to corn foliage during the pollen shed period.

Tomatoes	Aphids, Colorado Potato Beetles, Fall Army- worms, Flea Beetles, Leaf- hoppers, Southern Armyworms, Vinegar Flies (Drosophila spp.)	2 table- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days up to 5 applications per season. Do not apply within 1 day of harvest.
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