

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

Subject: Amendments - Revise in response to Diazinon Registration  
Standard and Agency letter dated June 9, 1989;  
Revise to correspond to D.z.n diazinon AC500 label;  
Selective decrease in application rates/lawns,  
ornamentals, fruits and nuts, and vegetables;  
Delete pests - billbugs/lawns, raspberry sawfly/cranberries,  
scale crawlers/grapes, mites/carrots, parsnips, and  
imported cabbageworm/radish, turnips  
D.z.n Lawn & Garden Insect Control  
EPA Reg. No. 100-456  
Your submissions dated December 5, 1989 and January 11, 1990

Dear Ms. Bussey:

The container label submitted December 5, 1989 and the booklet label submitted January 11, 1990 (which superseded the booklet label submission dated December 5, 1989) submitted in connection with a registration under the Federal Insecticide, Fungicide, and Rodenticide Act, is acceptable provided the following revisions are made prior to release for shipment under the amended label:

CONTAINER LABEL:

- 1) On the front panel, revise "See full label in booklet under cap for complete Directions for Applying this product." to "See full label in booklet under cap for complete directions for mixing and applying this product and a complete list of pests controlled."
- 2) In the "Notes" under the heading "General Information", add as number 2 "Do not use in the home.". Renumber the remaining "Notes" accordingly.
- 3) Add the crop "pears" to the crops listed for 14 days in the pre-harvest interval table.
- 4) In the "Vegetables: Foliar Application" listing, delete "leafhoppers" and "mites" from the "broccoli", etc. listing because these pests are not included in the booklet directions for use for these crops. You may

elect to specify "diamondback moths" and "imported cabbageworms" for these crops. If you choose that option, then delete "and others", since there will be no additional pests specified in the use directions.

- 5) In the "Vegetables: Foliar Application" listing for "celery", etc., delete "and others". There are no additional pests specified for these crops in the directions for use booklet.
- 6) In the "Vegetables: Foliar Application" listing, add "(tomato)" or, preferably, "(tomatoes)" after "Southern Armyworms" in the pest listing for "Peppers, Tomatoes". You may want to revise "(tomato)" to "(tomatoes)" in the two other locations of this sections, since other crop and pest names are indicated in the plural.
- 7) In the "Vegetables: Foliar Application" listing for "radishes" etc., the crop limitations and pest names should be plural for consistency with the rest of container label. Add "(potatoes)" after "Colorado Potato Beetles" and "Southern Armyworms". Delete "Mites" since these pests are not included in the use directions of the booklet label for the listed crops.
- 8) In the "Fruits & Nuts" listing for "Almonds, Walnuts", revise "(CA only)" to "(both crops - California only)" and relocate this limitation to appear under the crop names.
- 9) In the "Fruits & Nuts" listing for "Apricots", etc., delete "and others". There are no additional pests specified for these crops in the directions for use booklet.
- 10) In the "Fruits & Nuts" listing for "Caneberries", add "(all crops - California, Oregon, & Washington only)" under the listing of the specific crops.
- 11) In the "Fruits & Nuts" listing for "Grapes", delete "Scale Crawlers". These pests are not included for that crop in the directions for use booklet.
- 12) You may want to add "and others" to the end of the pest listing for "Roses & Flowers", since there are additional pests listed for these plants in the directions for use booklet.
- 13) In the Environmental Hazards text, relocate "Do not use in the home." to appear directly after "wash thoroughly if on skin and after handling.". Also, revise the sentence beginning "where irrigation is recommended..." to read as follows:

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), apply a minimum of 1/4 inch of water immediately after applying this product.

BOOKLET LABEL:

1) In the first paragraph of the "General Information" section, revise "D-z-n works fast and remains effective for an extended period of time." to "D-z-n works fast and remains effective for ....." [insert a specific period of time based upon your available efficacy and degradation data].

2) In the "Notes" under the heading "General Information", add as number 2 "Do not use in the home.". Renumber the remaining "Notes" accordingly.

3) Revise the measurement table of equivalents to reflect the use rates presented on the label:

1 tablespoon = 3 teaspoons  
 1 1/2 tablespoons = 4 1/2 teaspoons  
 1 fl. oz. = 6 teaspoons or 2 tablespoons  
 6 fl. oz. = 3/4 cup

3 3/4 teaspoons in 3 gals. of water = 1 1/4 teaspoons in 1 gal. of water

4 1/2 teaspoons (or 1 1/2 tablespoons) in 3 gals. of water = 1 1/2 teaspoons (or 1/2 tablespoon) in 1 gal. of water

4) In the "Lawn Pest Control" directions, delete the sentence: "For control of ants, ... to a height of 2-3 ft.". There is no application rate given in this sentence, plus it merely repeats pests now listed in the lawn section and also repeats the pest listing and the perimeter band method of application specified in the "Antigone Pests in Outside Areas" directions.

5) In the "Precautions" text of the "Lawn Pest Control" section, replace the sentence "If waterfowl .... puddling occurs." with the following:

Where irrigation (watering) is recommended in the directions, or if waterfowl, i.e., ducks and 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.

6) In the directions for control of "Lawn Chinch Bugs", delete "Use higher rate for longer residual control and in lawns of dense growth, such as St. Augustine lawns.", since only one use rate is given. It is noted that the new rate is lower than the 3/4 oz. on the June 9, 1989 label. Also in the "Remarks" section of these directions, it would be useful to give the amount of material (4 oz.) to apply in 24 gals. of water per 1000 sq. ft. (in addition to the 3 tsp./3 gals. of water) for control of chinch bugs in the North.

- 7) In the directions for control of lawn pests, consolidate the first two listings of pests, since the same rate of application is indicated. This will also eliminate the problem of having the remark about spot spraying of wasp ground nest openings dissociated from the wasp claim. The June 9, 1989 label had indicated overall lawn application and separately recommended spot treatment for ants and wasps. The current submission is not clear whether overall lawn, or spot treatment, or both, is appropriate for these pests. Also, the remarks on spot treatment of openings and treatment at dusk should appear together, rather than interrupted by the frit fly control remarks. Also, based upon the previous label (and the rate used to control these same pests on other sites on this label), the pests "Bermudagrass mites" (apparently a correction of the previously claimed "Bermudagrass thrips") and "leafhoppers" should appear in the revised consolidated pest listing (at the new lower 3 3/4 tsp. rate), before "clover mites" and "sod webworms", respectively. It would be useful to add "(pillbugs)" after "sowbugs" in the consolidated pest listing.
- 8) Why is the rate for control of "Brown dog ticks", "chiggers", and "fleas" (the remaining pests for that group [see item "7" above]) so low (1 3/4 tsp)? Previous labeling for this product had included these pests under the 1 oz. rate, and then at 3/4 oz. (4 1/2 tsp); your other lawn products (granulars) include these pests along with other specified lawn pests at a single rate (presumably equivalent to the 1 oz. rate, or its new adjustment).
- 9) It is noted that you have deleted the pest claim for "Billbugs" from this label. While this pest does not appear on the AG500 and 50W labels, it is claimed on another homeowner product, D.Z.N Granular Lawn Insect Control. ~~Is this deletion intentional, and if there are no supporting data for control of this pest for diazinon products, will you also be deleting this pest claim from the granular homeowner product?~~
- 10) In the "Remarks" section of the "White Grubs" directions, if deletion of the billbug claim was intentional, delete the second paragraph, which refers to billbug control.
- 11) Why is the rate for control of "Nuisance Pests" so high (6 oz./3 gals. of water)? This seems to directly contradict the new low rate (3 3/4 tsp/ 3 gals. of water) necessary to control most of these same pests on lawns, and especially the very low rate (1 3/4 tsp/3 gals. of water) currently indicated for ticks, fleas, and chiggers that appears in the lawn use directions. While a rate slightly higher might be appropriate, presumably for longer residual effect, it might also suffice to use a lower rate with some specified reapplication period (none is indicated on the current label).
- 12) Also in the "Nuisance Pests" section, revise "Do not treat plants or animals." to read "Do not treat animals. Do not treat plants (other than tree trunks) at this nuisance pest rate." [This second sentence would be used if you do not lower the nuisance pest rate to be identical to the lawn pest rate with or without some specified re-treatment time].

- 13) It might be more convenient for users of this product if the rate of 4 1/2 teaspoons was given as 1 1/2 tablespoons. This would involve about half of the lawn use directions and would enable all the fruit & nut and the vegetable directions to be given in terms of tablespoons.
- 14) In the "Insects" listing of the "Trees & Shrubs" section, specify "Webworms (Juniper, Mimosa)" as had appeared on previous labels for this product.
- 15) It is noted that the rate for apple and thorn skeletonizers, etc. (3 oz./3 gals. of water) is unchanged, while the other pest control rates for ornamentals were lowered from 1 oz. (6 tsp) to 4 1/2 tsp./3 gals. of water even though no lowering of the rate occurred on the D.z.n AG500 label. While there is no objection to the lowering of the rate (within the range of your available efficacy data), it is unclear why 2 of the 3 pest groupings now indicate a lower rate.
- 16) In the "Timing/Special Directions" of the "Roses and Flowers" section, add "Try to hit underside of leaves and penetrate dense foliage." as had appeared on previous labels for this product.
- 17) Delete the crop "cranberries" from the PHI table of the "Fruits and Nuts" introductory directions. This is not generally a homeowner-grown crop and no directions for use appear on the label.
- 18) Add the crop "pears" to the PHI table for "Fruits and Nuts". A PHI of 14 days should be indicated.
- 19) It is noted that all of the fruit and nut crop directions now indicate a lower rate (4 1/2 tsp or 3/4 oz) than had appeared on previous labels (1 oz) even though no lowering application rates for fruits and nuts is apparent on the new D.z.n AG500 label. Is this due to a recalculation of the conversion of pounds active/acre from the D.z.n AG500 label rates or is this an independent lowering of homeowner application rates?
- 20) For the crop "almonds", specify the type of scale crawlers controlled (presumably San Jose and Parlatoria, based upon their inclusion on your AG500 label). Also, in the "Timing/Special Directions" section for this same crop, relocate "Do not apply after husks open or split. Do not apply within 45 days of harvest." up to the first paragraph to appear directly after ".... 14 days apart.". Relocate "This product may be used on almonds only in California." to be the first sentence of the second paragraph.
- 21) For the crop "apples", delete "Tentiform leafminers (pears)" and "Psylla (pears)" and revise "Magocots (apples)" to "Magocots,". In the "Timing/Special Directions" section, relocate "Do not apply within 14 days of harvest" to be the last sentence of the first paragraph.
- 22) For the crop "apricots", revise "Olive" to "Olive" in the pest listing.

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- 23) For the "caneberries", add a comma after the pest name "Raspberry Fruit-worm". It is noted that you have deleted the pest "Raspberry Sawfly" which had appeared on previous labels. Why is the rate for control of caneberry pests so low (2 1/4 tsp)? A high rate appears on the D.z.n AG500 label. Why is the dilution into 2 1/2 gallons of water rather than 3 gallons as had previously appeared for this pest and still appears for all other pests? In the "Timing/Special Directions" section, please spell out the state names Washington, Oregon, and California, as you have done for other crops with a state limitation on this homeowner product label.
- 24) For the crop grapes, it is noted that the pests "scale crawlers" have been deleted. Also, "aphids" should appear at the beginning of the pest listing if you intend to maintain the alphabetical listing used for other crops.
- 25) In the "Timing/Special Directions" for the crop "peaches", delete "Do not apply within 10 days of harvest on apricots and nectarines." and revise "Do not apply to peaches within 20 days of harvest." to read "Do not apply within 20 days of harvest."
- 26) In the pest listing for the crop "pears", add a comma after the pest name "Psylla".
- 27) Why is the rate for the crop "strawberries" so low (2 1/4 tsp)? The rate had previously been 1 oz, and the D.z.n AG 500 label shows 1 pint, which usually equates to 1 oz or the new lower rate of 4 1/2 tsp (1 1/2 TBS).
- 28) For the crop "walnuts", specify the type of scale crawlers.
- 29) In the vegetable crops PHI table, you might want to relocate the superscripts to appear after the crop names rather than preceding them, so that all the crop names will be in alignment. Also, revise the footnote number 1 to indicate "black-eyed peas".
- 30) It is noted that all of the vegetable crop directions now indicate a lower rate (4 1/2 tsp. [3/4 oz.] per 1000 sq. ft. for foliar application, 4 1/2 ozs. per 1000 sq. ft. for soil application for cutworms) than had appeared on previous labels (1 oz. and 6 ozs., respectively, for labeling prior to June 9, 1989, and 3 ozs. and 6 ozs., respectively, for the June 9, 1989 label) even though no lowering of application rates for vegetables is apparent on the new D.z.n AG500 label. Is this due to a recalculation of the conversion of pounds active/acre from the D.z.n AG500 label rates or is this an independent lowering of homeowner application rates (beyond the historical 1 and 6 oz. rates; the Agency assumes that the 3 oz rate for vegetable foliar application on the June 9, 1989 label was in error)? It is noted that the rate for mole crickets (1 1/2 ozs. per 1000 sq. ft.) and root maggots (4 1/2 ozs. per 1000 sq. ft.) remain unchanged except for their method of presentation on the label, i.e., one half the rate in one half the water to cover one half the square footage.

- 31) For the crop "beans", revise the limitation to "(succulent varieties only)".
- 32) Delete "(Cont)" from under the crop name "Cabbage" where the crop name is first presented.
- 33) For the crop "carrots", delete "Southern Armyworm (potato)". Also, delete "Colorado Potato Beetle", which is presumably an artifact of pest listing from the crop grouping, since it is not a pest of this crop. It is noted that you have deleted the pest "mites" (presumably "spider mites") from this crop. Since you changed the crop grouping to which carrots is included on the label, you may have inadvertently omitted this pest which had been included in the previous grouping and which would be appropriate for this crop.
- 34) Specify the type of mites controlled (presumably spider mites) for the crops celery, cucumber, endive, lettuce, melons, peas, spinach, summer squash, winter squash, and sweet corn.
- 35) For the crop "melons", add a closing parenthesis mark after the listing of melon varieties (i.e., after "of these").
- 36) For the crop "parsnips", delete "Southern Armyworm (potato)". Also, delete "Colorado Potato Beetle", which is presumably an artifact of pest listing from the crop grouping, since it is not a pest of this crop. It is noted that you have deleted the pest "mites" (presumably "spider mites") from this crop. Since you changed the crop grouping to which parsnips is included on the label, you may have inadvertently omitted this pest which had been included in the previous grouping and which would be appropriate for this crop.
- 37) Delete "(Cont)" from under the crop name "Peas" where the crop name is first presented. Also add the required bee precaution to the "Note" (then "Notes") at the end of the directions for use on this crop.
- 38) For the crop "potatoes", for consistency add an "s" to the pest name "Colorado Potato Beetle" and "Southern Armyworm". All other pest names on the label are plural. Also, delete "(potato)" after "Southern Armyworms".
- 39) For the crop "radishes", delete "Southern Armyworm (potato)". Also, delete "Colorado Potato Beetle", which is presumably an artifact of pest listing from the crop grouping, since it is not a pest of this crop. It is noted that you have deleted the pest "imported cabbageworm" from this crop. Since you changed the crop grouping to which radishes is included on the label, you may have inadvertently omitted this pest which had been included in the previous grouping and which would be appropriate for this crop.
- 40) For the crop "tomatoes", for consistency add an "s" to the pest name "Fall Armyworm". All other pest names on the label are plural.

- 41) For the crop "turnips", delete "Southern Armyworm (potato)". Also, delete "Colorado Potato Beetle", which is presumably an artifact of pest listing from the crop grouping, since it is not a pest of this crop. It is noted that you have deleted the pest "imported cabbageworm" from this crop. **Since you changed the crop grouping to which radishes is included on the label, you may have inadvertently omitted this pest which had been included in the previous grouping and which would be appropriate for this crop.**
- 42) In the Hazards to Humans and Domestic Animals text, revise "Do not permit children or pets to go onto sprayed grass until the spray has completely dried" to "Do not permit children or pets to go onto treated areas until the treated area, such as grass or soil, has dried."
- 43) In the Environmental Hazards text, relocate "Do not use in the home." to appear directly after "Wash thoroughly if on skin and after handling." Also, revise the sentence beginning "where irrigation is recommended..." to read as follows:

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), apply a minimum of 1/4 inch of water immediately after applying this product.

A stamped copy of the label is enclosed for your records. Please ~~submit five (5) copies of the revised amended label prior to release for~~ shipment under the amended label. You may elect to submit the revised label to the Agency for comment prior to using it as a sample for your customers.

Sincerely yours,

George T. LaRocca  
 Product Manager (15)  
 Insecticide-Rodenticide Branch  
 Registration Division (H7504C)



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D·z·n®

lawn & garden  
insect  
control.

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

Protects

Lawns  
Vegetables  
Fruits & Nuts  
Roses  
Flowers  
Trees  
Shrubs

Controls

Ants, Aphids  
Chinch Bugs  
Cutworms  
Fire Ants†  
Flea Beetles  
Grubs, Mites  
Sod Webworms  
and many others

†Aids in control.

See full label in booklet under cap  
for complete Directions for  
Applying this product.

Active Ingredients:

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

\*Contains xylene range aromatic solvent.

Spray concentrate. Contains  
diazinon insecticide.

KEEP OUT OF REACH OF CHILDREN.

WARNING

See side panel for additional  
precautionary statements.

Net Contents

One Pint            or    8 oz.            or 1 qt.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

**JAN 25 1990**

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

100-456

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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.

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**General Information**

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D·z·n Lawn & Garden Insect Control is an emulsifiable concentrate product which must be diluted with water before application. This product kills many outdoor pests which damage lawns, roses, flowers, trees, shrubs, vegetables and fruits and insects which annoy pets and people.

SEE THE BOOKLET UNDER CAP FOR COMPLETE DIRECTIONS FOR USE AND PESTS CONTROLLED.

Notes: (1) USE CONTENTS WITHIN 6 MONTHS AFTER OPENING. (2) Do not use on ferns, poinsettia, hibiscus, papaya, pilea, gardenia or orchids since plant injury may occur. (3) Do not use on commercially-grown potatoes which will be hand-harvested. (4) Use this product on succulent peas and beans only. Do not use on dried pea or bean varieties.

After spraying wait the following number of days before harvesting fruits, nuts, or vegetables:

- Same day - Peas, Sweet Corn
- 1 day - Tomatoes
- 3 days - Melons, Winter Squash
- 5 days - Broccoli, Cauliflower, Peppers, Strawberries
- 7 days - Beans, Blackberries, Boysenberries, Cabbage, Cranberries, Cucumbers, Dewberries, Loganberries, Summer Squash
- 10 days - Apricots, Carrots, Celery, Cherries, Chinese Broccoli, Chinese Cabbage, Collards, Endive, Kale, Lettuce, Nectarines, Onions, Parsnips, Plums, Prunes, Radishes, Spinach, Turnips
- 14 days - Apples, Beets, (Red Table)
- 18 days - Grapes
- 20 days - Peaches
- 35 days - Potatoes (Irish)
- 45 days - Almonds, Walnuts

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.

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\*This table is only a partial listing of the pests controlled by this product. See booklet under cap for complete directions for use and pests controlled.

<u>Problem Area</u>	<u>Pests*</u>
<u>Nuisance Pests in Outside Areas</u>	Ants, Brown Dog Ticks, Chiggers, Cockroaches, Crickets, Fleas, Fire Ants, Spiders and others
<u>Lawns</u>	Chinch Bugs, Ants, Sod Webworms, Brown Dog Ticks, Fleas, White Grubs, Lawn Billbugs and others*
<u>Vegetables: Foliar Application</u>	
Beans, Peas (except dried varieties)	Aphids, Cucumber Beetles, Grasshoppers, Leafhoppers, Mexican Bean Beetles, Mites
Broccoli, Chinese Broccoli, Cabbage, Chinese Cabbage Cauliflower, Collards, Kale	Aphids, Flea Beetles, Leafhoppers, Dipterous Leafminers, Mites and others*
Celery, Endive (Escarole) Lettuce, Spinach	Aphids, Flea Beetles, Leafhoppers, Dipterous Leafminers, Mites and others*

Peppers, Tomatoes                      Aphids, Colorado Potato Beetles, Fall Armyworms (tomato), Flea Beetles, Leafhoppers, Southern Armyworms, Vinegar Flies - Drosophila spp. (tomato)

Onions, Green and Bulb                      Onion Thrips

Radishes, Turnips, Carrots, Parsnips, Potatoes                      Aphids, Flea Beetles, Leafhoppers, Dipterous Leafminers, Mites, Colorado Potato Beetle, Southern Armyworm

Sweet Corn                      Aphids, Flea Beetles, Grasshoppers, Mites

Melons, Squash (Summer, Winter),                      Aphids, Thrips, Mites

Vegetables: Preplant Soil Application

Beans, Peas (except dried varieties)                      Cutworms, Mole Crickets, Wireworms (snap beans)

Beets, Red (Table)                      Mole Crickets

Cabbage                      Cutworms, Root Maggots, Wireworms

Carrots, Sweet Corn                      Cutworms, Mole Crickets, Wireworms

Lettuce, Tomatoes                      Cutworms, Wireworms

Radishes, Turnips                      Cutworms

Fruits & Nuts

Almonds, (CA only) Aphids, Scale Crawlers, Spider Mites and  
Walnuts others

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Apples, Pears Aphids, Codling Moths, Leafhoppers,  
Tentiform Leafminers (Pears), Maggots  
(Apples), Mealybugs, Mites, Scale Crawlers  
and others\*

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Apricots, Peaches, Aphids, Apricot Mealybugs (Apricot), Mites,  
Nectarines Scale Crawlers and others\*

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Cherries Black Cherry Aphids, Cherry Fruitflies,  
Mites, Scale Crawlers and others\*

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Plums, Prunes Aphids, Mites

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Caneberries Aphids, Leafhoppers, Two-Spotted Mites,  
(blackberries, Thrips, Raspberry Fruitworms  
boysenberries,  
dewberries,  
loganberries,  
raspberries)

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Strawberries Aphids, Two-Spotted Mites, Strawberry  
Leafrollers

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Grapes Aphids, Grape Berry Moths, Grape  
Leaffolders, Leafhoppers, Scale Crawlers

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Roses & Flowers:

Azalea, Camellia,      Aphids, Flea Beetles, Dipterous Leafminers,  
Chrysanthemum,      Leafhoppers, Mealybugs, Two-spotted Spider  
Carnation,            Mites, Thrips, Whiteflies  
Gladioli, Lilac,  
Rhododendron,  
Roses

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Trees & Shrubs

Arborvitae,            Aphids, Mites, Scale Crawlers, Whiteflies,  
Azalea, Birch,        Tent Caterpillars and others\*  
Boxwood, Camelia,  
Douglas Fir, Elm,  
Hawthorn Holly,  
Juniper, Lilac,  
Locust, Maple,  
Mimosa, Oak, Pine,  
Ornamental Plum,  
Poplar,  
Rhododendron,  
Spruce, Willow

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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 or pets. USE CONTENTS WITHIN 6 MONTHS AFTER OPENING.

Disposal:

Do not reuse empty container. Thoroughly rinse container, securely wrap 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.

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Precautionary Statements

Hazards to Humans and Domestic Animals

**WARNING**

May be fatal if swallowed or absorbed through skin. Avoid breathing spray mist. Causes substantial but temporary eye damage. Do not get in eyes, on skin, or clothing. Wear goggles or safety glasses. Avoid contact with eyes and skin. Wash thoroughly if on skin and after handling. Avoid contamination of feed and foodstuffs. Do not use on household pets or humans. Do not permit children or pets to go onto sprayed grass until the spray has completely dried. Do not use in the home. 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.

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

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

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 a xylene range aromatic solvent 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

Continued

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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. Where irrigation (watering) is recommended, apply a minimum of 0.25 inch of water immediately after applying this product. Stop irrigation before puddling occurs. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). 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. Applications should be timed to provide the maximum possible interval between treatment and the next period of bee activity.

Physical or Chemical Hazards

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

D·z·n® trademark of CIBA-GEIGY for diazinon

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Agricultural Division  
CIBA-GEIGY Corporation  
Greensboro, North Carolina 27419

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CGA A1L1R 18 (1 pint)  
CGA A1L21G (8 oz.)  
CGA A1L3R 16 (1 quart)  
Label goes with booklet CGA A1L9J (November 30, 1989)

EPA Reg. No. 100-456

EPA Est.

September 15, 1982  
Revised October 1, 1983  
(Great Value Campaign)  
Revised Feb. 22, 1984  
(PR-Notice 83-3)  
Storage & Disposal,  
Changed copyright date,  
removed Great Value  
Statement)



Revised April 4, 1988  
Do not use on golf  
courses and sod farms. -  
Accepted

Revised Nov. 11, 1988  
Deleted unsupported  
crops under 5/1/87 EPA  
Data Call-In - Reduced lawn  
rates to 4 lbs. a.i. max.

Revised March 9, 1989 -  
Deleted xylene from a.i.,  
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 chem. tests.

Revised August 10, 1989  
Deleted rates, referred user  
to booklet label.

Revised November 30, 1989  
Add Reg. Standard Changes,  
some reformatting.

Revised December 6, 1989  
Reformatting for Reg.  
Standard Changes

(LABELS-D.4 - DZN/LGIC/PT)

BOOKLET

(For use with 8 oz., 1 pt., and 1 qt. containers)

**Diazinon® Lawn and Garden Insect Control**

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

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

**JAN 25 1990**

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†
- Flea Beetles
- Grubs, Mites
- Sod Webworms
- and many others

†Aids in control.

**Active Ingredients:**

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

\*Contains xylene range aromatic solvent.

Spray concentrate. Contains diazinon insecticide.

KEEP OUT OF REACH OF CHILDREN.

WARNING

See end of booklet for additional precautionary statements.

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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.

Conditions of Sale and Warranty

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.

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**General Information**

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D·z·n Lawn and Garden Insect 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. ~~(REFER TO LABEL/DIRECTIONS/IN BOOKLET/UNDER CAP FOR SPECIFIC INSECTS CONTROLLED AND COMPLETE DIRECTIONS FOR USE.)~~ Contains diazinon insecticide which provides positive control of many "hard-to-kill" sucking and chewing insects. D·z·n works fast and remains effective for an extended period of time.

Notes: (1) USE CONTENTS WITHIN 6 MONTHS AFTER OPENING. SEE "STORAGE AND DISPOSAL" DIRECTIONS. (2) Do not use on ferns, poinsettia, hibiscus, papaya, pilea, gardenia or orchids since injury may occur. (3) Do not use on commercially-grown potatoes which will be hand-harvested. (4) Use this product on succulent peas and beans only. Do not use on dried pea or bean varieties.

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.

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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 suggested 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 insect list. Use rates shown unless otherwise indicated.

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1/2 tablespoon = 1 1/2 teaspoons  
1 fl. oz. = 6 teaspoons or 2 tablespoons  
6 fl. oz. = 3/4 cup  
3 3/4 teaspoons in 3 gals. of water = 1 1/4 teaspoon in 1 gal. of water or 3 3/4 ozs. in 18 gals. of water

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2/03

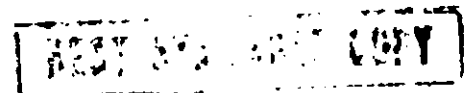
Lawn Pest Control

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

To control pests listed below, apply recommended rates. For control of Ants, Brown Dog Ticks, Clover Mites, Crickets, Earwigs, Fleas, Millipedes, Sowbugs, and Springtails (Collembola), which are commonly found near the house and may enter the house, spray a 5-ft. band of soil around the house, as well as the house foundation wall to a height of 2-3 ft. Repeat application if necessary.

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. Avoid overlapping of sprays. If waterfowl, i.e., ducks, geese can be expected to enter the treated area after treatment (except spot treatments), water lawn with at least 1/4 inch water immediately after application, however, stop watering before puddling occurs.

Pests	Rate		Remarks
	D·z·n	Water	
Lawn Chinch Bugs	3 3/4 tea-spoons per 125 sq. ft. or 5 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Thoroughly wet down grass a few hours before applying. Use higher rate for longer residual control and in lawns of dense growth, such as St. Augustine lawns.  In the North, if Chinch Bugs are the only problem, a lower rate of application can be used: 3 teaspoons in 3 gals. of water covers 125 sq. ft.



Pests	Rate		Remarks
	D·z·n	Water	
Ants, Armyworms, Clover Mites, Springtails (Collembola), Crickets	3 3/4 tea- spoons per 125 sq. ft. or 5 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Thoroughly wet down grass a few hours before applying. Spot spray ant hills and wasp ground nest openings.
Cutworms, Digger Wasps, Earwigs, Frit Flies, Lawn Billbugs, Sod Webworms (Lawn Moths), Sowbugs	3 3/4 tea- spoons per 125 sq. ft. or 5 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	For frit flies, mow grass and water well before treatment, but delay applica- tion until grass is dry.  For digger wasps, apply at dusk, when wasp are not active.
Brown Dog Ticks, Bermudagrass Mites, Chiggers, Fleas, Leafhoppers	1 3/4 tea- spoons per 125 sq. ft. or 5 tablespoons 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.
Millipedes	4 1/2 tea- 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	4 1/2 tea- spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Apply when crawlers first emerge.

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Pests	Rate		Remarks
	D · z · n	Water	
<del>Billbugs</del> , White Grubs of Japanese Beetle, European Chafer, Southern Chafer	4 1/2 tea-spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Water grass thoroughly after application. Grub control: Apply any time between late July and early October.  Billbug control: Apply when activity is first observed or when chewed or brown grass is present indicating damage from the insect.
Hyperodes Weevil	4 1/2 tea-spoons per 125 sq. ft. or 6 fl. ozs. per 1,000 sq. ft.	3 gals.  24 gals.	Water grass thoroughly after application. Treat problem areas in mid-April and again in mid-May.
<del>Boxelder Bugs</del>	<del>1 3/4 tea-spoons per 125 sq. ft.            or            5 tablespoons per 1,000 sq. ft.</del>	<del>3 gals.             24 gals.</del>	<del>Spray bugs outside the home and thoroughly spray around foundation, windows, doors, tree trunks, and into cracks and other places where the insects hide.</del>

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Nuisance Pests in Outside Areas

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. Thoroughly spray window and door screens, sills, foundations, porch and patio walls and ceilings, entranceways, walks, garbage cans, tree trunks, and into cracks and other places where insects can hide.

Do not treat plants or animals.

\*Spray a 5 ft. band of soil around the house next to the foundation and spray the foundation of the house to a height of 2-3 ft.

Fire Ants

To aid in the control of fire ants in lawns and other recreational 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 Trees, Shrubs and Flowers

Trees & 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), Leafhoppers, Mealybugs, Mites (Clover, Cyclamen, European Red, Privet, Twospotted Spider), Obscure Root Weevils, Omnivorous Leaf- tiers, Scale Crawlers, (Cottonycushion, Eynonymous, Lecanium, Pine Needle, Pit Scale, San Jose, Soft)	4 1/2 teaspoons	Apply as a thorough foliar spray. Wet leaves and branches to the dripping point. Try to penetrate dense foliage with spray.
Webworms, Whiteflies		4 1/2 teaspoons	Apply as a thorough foliar spray. Mimosa Webworms: Apply as a thorough foliar spray when adults first appear. Make two additional applications at 4-5 week intervals.

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Insect Control on Trees, Shrubs and Flowers

<u>Trees &amp; 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, Orna- mentals, Plum, Poplar, Rhododendron, Spruce, Willow (Continued)	Apple and Thorn Skeletonizers, Hemlock Chermes, Oak Loopers, Obliquebanded Leafrollers, Pear Slugs, Tent Caterpillars, Webworms (Cotoneaster, Fall)	3 fl. oz.	Apply as a thorough foliar spray.

Roses and Flowers

Azaleas, Camellias, Chrysanthemums, Carnations, Gladioli, Lilac, Rhododendron, Roses	Aphids, Eunonymus Scale Crawlers, Flea Beetles, Dipterous Leafminers, Leafhoppers, Mealybugs, Mites (Carnation Bud, Carnation Shoot, Cyclamen, European Red, Twospotted Spider), Thrips, Whiteflies	4 1/2 teaspoons	Apply as a thorough foliar spray.
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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	45
Apples	14
Apricots	10
Blackberries	7
Boysenberries	7
Cherries	10
Cranberries	7
Dewberries	7
Grapes	18
Loganberries	7
Nectarines	10
Peaches	20
Plums	10
Prunes	10
Raspberries	7
Strawberries	5
Walnuts	45

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

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)	Aphids, Scale Crawlers, Spider Mites, Twig Borers	4 1/2 tea- spoons in 3 gals. of water	<p>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 applications per season 14 days apart. This product may be used on almonds only in California.</p> <p>Do not apply after husks open or split. Do not apply within 45 days of harvest. Do not use this product on almonds grown in other states.</p>
Apples	Aphids, Codling Moths, Eyespotted Bud Moths, Fruittree Leaf- rollers, Leaf- hoppers, Tentiform Leafminers (pears), Maggots (apples), Mealybugs, Mites (European Red, Clover [brown], Pacific, Twospotted Spider), Psylla (pears), Scale Crawlers, Cottony- cushion, San Jose, Forbes, Soft)	4 1/2 tea- spoons in 3 gals. of water	<p>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 applications per season a minimum of 14 days apart.</p> <p>On apples, slight russeting may occur on some varieties such as Golden Delicious. Do not apply within 14 days of harvest.</p>

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Crop	Pest	Rate	Timing/Special Directions
Apricots	Aphids, Apricot Mealybugs, Mites (Clover [brown], Twospotted Spider), Scale Crawlers (Oliver, San Jose)	4 1/2 tea- 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 4 applications per season a minimum of 14 days apart. Do not apply within 10 days of harvest.
Cane- berries (WA, OR, CA only) Black- berries, Boysen- berries, Dew- berries, Logan- berries, Rasp- berries	Aphids, Leaf- hoppers, Raspberry Fruitworms Twospotted Mites, Thrips	2 1/4 tea- spoons in 2 1/2 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 applications per season a minimum of 14 days apart. Do not apply within 7 days of harvest.  This product may be used on caneberries only in WA, OR and CA. Do not use this product on caneberries grown in other states.

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 1/2 tea- 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 4 applications per season a minimum of 7 days apart. Do not apply within 10 days of harvest.
Grapes	Leaf- hoppers, Grape Berry Moths, Grape Leaf- folders, Aphids	4 1/2 tea- spoons 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 18 days of harvest.
Nectarines	Aphids, Mites (Clover [brown], Twospotted Spider) Scale Crawlers (Olive, San Jose)	4 1/2 tea- 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 4 applications per season a minimum of 14 days apart. Do not apply within 10 days of harvest.

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Crop	Pest	Rate	Timing/Special Directions
Peaches	Aphids, Mites (Clover [brown], Twospotted Spider) Scale Crawlers (Olive, San Jose)	4 1/2 tea- 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 4 applications per season a minimum of 14 days apart. Do not apply within 10 days of harvest on apricots and nectarines. Do not apply to peaches within 20 days of harvest.
Pears	Aphids, Codling Moths, Eyespotted Bud Moths, Fruittree Leaf- rollers, Leaf- hoppers, Tentiform Leafminers Mealybugs, Mites (European Red, Clover [brown], Pacific, Twospotted Spider), Psylla Scale Crawlers (Cottony- cushion, San Jose, Forbes, Soft)	4 1/2 tea- 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 applications per season a minimum of 14 days apart. Do not apply within 14 days of harvest.



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Crop	Pest	Rate	Timing/Special Directions
Plums and Prunes	Aphids (Leafcurl Plum, Mealy Plum, Thistle), Mites (Clover [brown], European Red)	4 1/2 tea-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 4 applications per season a minimum of 7 days apart. Do not apply within 10 days of harvest.
Strawberries	Aphids, Twospotted Mites, Strawberry Leafrollers	2 1/4 tea-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 applications per season a minimum of 7 days apart. Do not apply within 5 days of harvest.
Walnuts (CA only)	Aphids, Scale Crawlers, Spider Mites, Twig Borers	4 1/2 tea-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 applications per season 14 days apart. Do not apply after husks open or split. Do not apply within 45 days of harvest.  This product may be used on walnuts only in California. Do not use this product on walnuts grown in other states.

Vegetable Crops

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.

Pre Harvest Intervals (PHI\*)  
for Foliar Applications

Crop	PHI* (Days)
<sup>1</sup> Beans, Lima Pole & Snap	7
Beets, Red (Table)	14
Broccoli	5
Cabbage	7
Cantaloupes	3
Carrots	10
Casabas	3
Cauliflower	5
Celery	10
Chinese Broccoli	10
Chinese Cabbage	10
Collards	10
Crenshaws	3
Cucumbers	7
Endive (Escarole)	10
Honeydew Melons	3
Kale	10
Lettuce	10
Muskmelons	3
Onions, Bulb & Green	10
Parsnips	10
<sup>1</sup> Peas	0
Peppers	5
<sup>2</sup> Potatoes (Irish)	35
Radishes	10
Spinach	7
Squash, summer	7
Squash, winter	3
Sweet Corn	0
Tomatoes	1
Turnips	10
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, or dried blackeyed peas.

<sup>2</sup>Do not use this product on commercially-grown potatoes which will be hand-harvested.

Vegetable Crops

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 only)	Aphids, Cucumber beetles, Grass- hoppers, Leaf- hoppers, Mexican Bean Beetles, Mites	4 1/2 tea- 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, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Mole Crickets	4 1/2 tea- 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)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 4-8 inches.

Note: To protect bees, do not apply bean foliage treatments if the beans or weeds in the treatment area are in bloom.

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Crop	Pest	Rate	Timing/Special Directions
Beets, Red (Table)	Cutworms (surface, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Mole Crickets	4 1/2 tea- 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	4 1/2 tea- 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 appli- cations per season. Do not apply within 5 days of harvest.
Cabbage (cont)	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	4 1/2 tea- 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 appli- cations per season. Do not apply within 7 days of harvest.
	Cutworms (surface, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Root Maggots	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 3-4 inches.

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Crop	Pest	Rate	Timing/Special Directions
Cabbage (cont)	Wireworms	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 4-8 inches.
Carrots	Aphids, Flea Beetles, Leaf- hoppers, Colorado Potato Beetle, Southern Armyworm (potato), Dipterous Leafminers	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat applications every 7 days up to 5 appli- cations per season. Do not apply within 10 days of harvest.
	Cutworms (surface, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Mole Crickets	4 1/2 tea- 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	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 4-8 inches.
Cauli- flower	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application even 7 days up to 5 applica- tions per season. Do not apply within 5 days of harvest.

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Crop	Pest	Rate	Timing/Special Directions
Celery	Aphids, Flea Beetles, Leaf-hoppers, Dipterous Leafminers, Mites	4 1/2 tea- 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 Broccoli	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage-worms, Dipterous Leafminers	4 1/2 tea- 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	4 1/2 tea- 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.
Collards	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage-worms, Dipterous Leafminers	4 1/2 tea- 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, Mites	4 1/2 tea- 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.

3/1/18

Crop	Pest	Rate	Timing/Special Directions
Endive (Escarole)	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Mites	4 1/2 tea- 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 appli- cations per season. Do not apply within 10 days of harvest.
Kale	Aphids, Diamondback Moths, Flea Beetles, Imported Cabbage- worms, Dipterous Leafminers	4 1/2 tea- 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 appli- cations per season. Do not apply within 10 days of harvest.
Lettuce	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Mites	4 1/2 tea- 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 appli- cations per season. Do not apply within 10 days of harvest.
	Cutworms (surface, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Wireworms	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 4-8 inches.

Crop	Pest	Rate	Timing/Special Directions
Melons (Cantaloupes, Casabas, Crenshaws, Honeydews, Muskmelons, Persians and Hybrids of these and Watermelons	Aphids, Thrips, Mites	4 1/2 teaspoons 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 appli- cations per season. Do not apply within 3 days of harvest.
Onions, Green & Bulb	Onion Thrips	4 1/2 tea- 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 3 appli- cations per season. Do not apply within 10 days of harvest.
Parsnips	Aphids, Flea Beetles, Leaf- hoppers, Colorado Potato Beetle, Southern Armyworm (potato), Dipterous Leafminers	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat applications every 7 days up to 5 appli- cations per season. Do not apply within 10 days of harvest.
Peas (succulent only)  (cont)	Aphids, Cucumber Beetles, Grass- hoppers, Leaf- hoppers, Mexican Bean Beetles, Mites	4 1/2 tea- 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 appli- cations per season. Peas may be picked immediately after application.



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Crop	Pest	Rate	Timing/Special Directions
Peas (succulent only)  (cont)	Cutworms (surface, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to soil just before planting. Immedi- ately work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Mole Crickets	4 1/2 tea- 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	4 1/2 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: Do not apply this product to dried pea varieties such as split peas.

Peppers	Aphids, Colorado Potato Beetle, Flea Beetles, Leaf- hoppers	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days to 5 applica- tions per season. Do not apply within 5 days of harvest.
Potatoes	Aphids, Flea Beetles, Leaf- hoppers, Colorado Potato Beetle, Southern Armyworm (potato), Diptercus Leafminers	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat applications every 7 days up to 5 appli- cations per season. Do not apply within 35 days of harvest.  Note: Do not use on commercially-grown potatoes which will be hand- harvested.

4.2/48

Crop	Pest	Rate	Timing/Special Directions
Radishes	Aphids, Flea Beetles, Leaf- hoppers, Colorado Potato Beetle, Southern Armyworm (potato), Dipterous Leafminers	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat applications every 7 days up to 5 appli- cations per season. Do not apply within 10 days of harvest.
	Cutworms (surface, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
Spinach	Aphids, Flea Beetles, Leaf- hoppers, Dipterous Leafminers, Mites	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days to 5 applica- tions per season. Do not apply within 10 days of harvest.

Crop	Pest	Rate	Timing/Special Directions
Squash, Summer	Aphids, Thrips, Mites	4 1/2 tea- 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 appli- cations per season. Do not apply within 7 days of harvest.
Squash, Winter	Aphids, Thrips, Mites	4 1/2 tea- 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 appli- cations per season. Do not apply within 3 days of harvest.
Sweet Corn	Aphids, Flea Beetles, Grass- hoppers, Mites	4 1/2 tea- spoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat applications every 7 days up to 5 appli- cations per season. Corn may be picked immediately following last application.
	Cutworms (surface, subter- ranean)	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.
	Mole Crickets	4 1/2 tea- 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	4 1/2 table- spoons per 500 sq. ft. in a minimum of 1 1/2 gals. of water	Broadcast to the soil just before planting. Immediate- ly work into soil 4-8 inches.

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

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Crop	Pest	Rate	Timing/Special Directions
Tomatoes	Aphids, Colorado Potato Beetles, Fall Armyworm, Flea Beetles, Leafhoppers, Southern Armyworms, Vinegar Flies (Drosophila spp.)	4 1/2 teaspoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat application every 7 days to 5 applications per season. Do not apply within 1 day of harvest.
	Cutworms (surface, subterranean)	4 1/2 tablespoons 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.
	Wireworms	4 1/2 tablespoons 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.
Turnips and Turnip Tops	Aphids, Flea Beetles, Leafhoppers, Colorado Potato Beetle, Southern Armyworm (Potato), Dipterous Leafminers	4 1/2 teaspoons in 3 gals. of water to cover 1,000 sq. ft. of garden	Thoroughly spray all plant parts. Repeat applications every 7 days up to 5 applications per season. Do not apply within 10 days of harvest.
	Cutworms (surface, subterranean)	4 1/2 tablespoons 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.

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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

WARNING

May be fatal if swallowed or absorbed through skin. Avoid breathing spray mist. Causes substantial but temporary eye damage. Do not get into eyes, on skin or clothing. Wear goggles or safety glasses. Avoid contact with eyes and skin. Wash thoroughly if on skin and after handling. Avoid contamination of feed and foodstuffs. Do not use on household pets or humans. Do not permit children or pets to go onto sprayed grass until the spray has completely dried. Do not use in the home. 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

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

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

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 a xylene range aromatic solvent 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. Where irrigation (watering) is recommended, apply a minimum of 1/4 inch of water immediately after applying this product. Stop irrigation before puddling occurs. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). 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. Applications should be timed to provide the maximum possible interval between treatment and the next period of bee activity.

#### 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 A1L9J  
(booklet goes with labels)  
CGA A1L1R18  
CGA A1L21G  
CGA A1L3R16)

	July 29, 1981
Revised	May 13, 1982
Revised	Feb. 22, 1984
	(PR Notice 83-3 Storage and Disposal, Changed copyright date).
Revised	April 4, 1988
	This product must not be used on golf courses and sod farms.
	Accepted
Revised	September 13, 1988
	Changed chem. name, reduced turf rates and added avian precautions, de- leted unsupported crops under May 1, 1987 EPA Data Call- In.
Revised	Nov. 4, 1988
	changed chem. back to orig., all corn specified as "sweet" corn per EPA. Reduced lawn rates to 4 lbs. ai max.

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 ..*

(LABELS-D.4 - DZN/LGIC)