



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

AUG 19 1994

Judy Oldham  
Helena Chemical Company  
6075 Poplar Ave., Suite 500  
Memphis, TN 38119

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Subject: Label Amendment Submissions of 6/30/93 & 9/1/93 in Response to PR  
Notice 93-7  
EPA Reg. No. 5905-248  
HELENA DIAZINON AG 500 INSECTICIDE (Restricted & Non-restricted)

**IMPORTANT NOTICE:** This Letter Requires You to Submit a Notification to the Office  
of Compliance Monitoring within 20 Days.

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments listed on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

**SERIOUS ERROR(S) ON SUBMITTED LABELING:**

EPA has determined that one or more of the errors on the labeling you submitted to the Agency is categorized as "serious" as defined in PR Notice 93-11. In general, serious errors are those that may create a potential for harm to workers, handlers, other persons, or the environment; or those that prevent the achievement of the basic goals of the Worker Protection Standard (WPS) or FIFRA.

**YOU MUST NOT SELL OR DISTRIBUTE (INCLUDING RELEASE FOR SHIPMENT) ANY PRODUCT BEARING THE SUBMITTED LABELING.** Sale or distribution of any product with the incorrect labeling is a violation of FIFRA that could result in initiation of an action for civil penalties and/or cancellation of your product. This matter has been referred to the Office of Compliance Monitoring (OCM) for further action.

**YOU MUST SUBMIT A NOTIFICATION TO THE OFFICE OF COMPLIANCE MONITORING WITHIN 20 DAYS OF THE DATE OF THIS LETTER.**



Recycled/Recyclable  
Printed with Soy/Candla Ink on paper that  
contains at least 50% recycled fiber

Each notification must include the following information:

1. Registrant's name and address.
2. EPA Registration number of the product for which the labeling was submitted.
3. Whether any product already has been sold or distributed (this includes released for shipment) bearing the submitted labeling.

In addition, the notification must include the following information, IF you have already sold or distributed any product bearing the submitted labeling:

1. Quantity of the product that has been sold or distributed.
2. EPA Producing Establishment number.
3. Location of the product, if known.
4. Proposed plan for assuring that product with the incorrect labeling in your control, as well as that in the hands of dealers/distributors/users, will be corrected. The plan must include your proposal for assuring that the labeling is corrected as soon as possible.

Submit the notification to:

Michael Wood, Director  
Compliance Division, (7203)  
Worker Protection Notification  
Office of Compliance Monitoring  
U.S. Environmental Protection Agency  
401 M Street SW  
Washington, DC 20460

Failure to submit a notification also may result in initiation of an action under FIFRA for civil penalties, if you sold or distributed (this includes released for shipment) product bearing the incorrect labeling.

IN ADDITION, YOU SHOULD CONTACT IMMEDIATELY THE PERSONS TO WHOM YOU SOLD OR DISTRIBUTED YOUR PRODUCT AND INFORM THEM NOT TO SELL OR DISTRIBUTE ANY PRODUCT WITH THE INCORRECT LABELING.

**WHAT THIS ACCEPTANCE MEANS:**

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the WPS labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have neither been reviewed nor accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

**WHAT YOU NEED TO DO NEXT:**

Submit the required notification. Then by the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling as amended

**AND**

- WITHIN one year from date of this acceptance.

Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs (7505C)  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460-0001

Hand or courier deliveries of final labeling may be made to:

Document Processing Desk (FIN-LABEL)

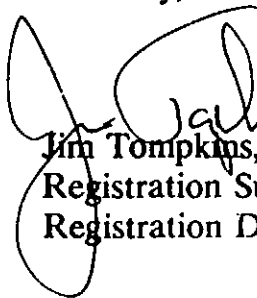
Office of Pesticide Programs

Room 266A, Crystal Mall 2

1921 Jefferson Davis Highway

Arlington, VA 22202

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Tompkins", is written over the typed name and title.

Jim Tompkins, Deputy Chief  
Registration Support Branch  
Registration Division (7505W)

Attachment

cc: Office of Compliance Monitoring

Judy Oldham  
Helena Chemical Company

Comments for: EPA REG. NO. 5905-248

DIAZINON AC500 INSECTICIDE (restricted use and  
non-restricted use labels.

The following specific comments pertain to your WPS labeling  
submission concerning the product cited above:

The bodywear requirement for early entry in the Agricultural Use  
Requirements Box on your proposed labeling should be "Coveralls  
over short-sleeved shirt and short pants. Remove the current  
"Coverallss" and replace it with "Coveralls over short-sleeved  
shirt and short pants".

Move the statement "Do not apply this product in a way that will  
contact workers or other persons, either directly or through  
drift. Only protected handlers may be in the area during  
application." from its current position in the Agricultural Use  
Box to the "Directions for Use section before "For any  
requirements specific to your State or Tribe ....."

*MOVE STATE SPECIFIC REENTRY REQUIREMENTS to the RESTRICTED ENTRY  
PORTION OF THE AGRICULTURAL USE REQUIREMENTS BOX*

5-49

**THIS PRODUCT MUST NOT BE USED ON GOLF COURSES AND SOD FARMS.**

**RESTRICTED USE PESTICIDE**  
**Due to Avian and Aquatic Toxicity**  
For retail sale to and use by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certification.

**HELENA  
DIAZINON® AG500  
INSECTICIDE**

For Control of Certain Insects on Fruits, Nuts, Vegetables,  
Field Crops, Lawns and Ornamentals.

**ACTIVE INGREDIENT:**

Diazinon: O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl)  
phosphorothioate.....48.50%

**INERT INGREDIENTS**.....51.50%

**TOTAL**.....100.00%

Diazinon® trademark of CIBA-GEIGY Corporation.

\*Contains Petroleum Distillates.

**KEEP OUT OF REACH OF CHILDREN**

**WARNING**

**AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

See Additional Precautionary Statements Inside Booklet

**EPA REG. NO.:** 5905-248  
**EPA EST. NO.:** First letters of product  
batch code indicate producing  
establishment: 5905-GA-1=CG.  
5905-AR-1=WA. 5905-CA-1=KC.  
5905-IA-1=DI. 5905-FL-1=T

**ACCEPTED**  
with **COMMENTS**  
In EPA Letter Dated

**AUG 19 1994**  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
5905-248

**MANUFACTURED BY  
HELENA CHEMICAL COMPANY  
MEMPHIS, TN 38137**

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**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**WARNING**

May be fatal if swallowed. May be absorbed through skin. Do not breathe spray mist. Causes Substantial, but temporary eye damage. Do not get in eyes, on skin, or on clothing. Avoid contamination of food and feed. Keep out of reach of domestic animals. Do not use on humans, pets or livestock. Do not contaminate ornamental fish ponds.

Food utensils such as measuring spoons should not be used for food purposes after use in measuring pesticides.

**PERSONAL PROTECTIVE EQUIPMENT**

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

**Applicators and other handlers must wear:**

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber or viton
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations**

**Users should:**

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

**STATEMENT OF PRACTICAL TREATMENT**

**Organophosphate**

**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 petroleum distillate 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 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. Rates above those recommended significantly increase potential hazards to birds and waterfowl. 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 0.25 inch water immediately after application, however stop watering before puddling occurs. Keep out of lakes, streams, ponds, tidal marshes and estuaries. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and 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 washwaters.

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.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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



through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

Exception: If the product is soil-incorporated or soil-injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

Coveralls

Chemical-resistant gloves, such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, or Viton.

Chemical-resistant footwear plus socks

Protective eyewear

Chemical-resistant headgear for overhead exposure

#### Non-Agricultural Use Requirements

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

*Keep children and pets out of the treated area until spray has dried*

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal. Open dumping is prohibited.

##### Pesticide:

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

##### Container:

Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or incinerate, or, burn, if allowed by state and local authorities. Stay out of smoke from burning container.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372 day or night.

**IMPORTANT:** Read the entire DIRECTIONS FOR USE and the CONDITIONS OF SALE AND WARRANTY before using this product. If terms are not acceptable, return the unopened product container at once.

## GENERAL INFORMATION

**Diazinon AG500** is an emulsifiable solution which, when diluted with water according to the directions, is intended for the control of insect pests of agricultural crops and other plants. Do not use in barns or dwellings. Do not use on livestock.

In the directions for use which follow, best control is obtained when application is made at first sign of pests. Application should be repeated only as directed to maintain control.

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, since crop of plant injury may result.

**Diazinon AG500** may be applied acrially to head lettuce, tomatoes, peaches, nectarines, plums, prunes, cherries, apricots, almonds, and walnuts only.

FAILURE TO FOLLOW ALL PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR INSECT CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

## CHEMIGATION

**APPLICATION THROUGH AN IRRIGATION SYSTEM (CHEMIGATION) - CRANBERRIES ONLY.**

**Diazinon AG500** may be applied alone or in combination with other pesticides registered for application through sprinkler irrigation systems to cranberries. To insure compatibility, pour the products into a small container of water in the correct proportions. After thorough mixing, let stand for five minutes. If the combination remains mixed, or can be remixed readily, the mixture is compatible.

Do not apply this product through any type of irrigation system to other crops. For chemigation, apply this product to cranberries only through sprinkler irrigation systems. Do not apply this product to cranberries through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

Do not connect the irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments if the need arises.

### Chemigation System Connected to Public Water Systems

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

2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction.. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

### Sprinkler Chemigation

1. The system must contain a functional check valve, a vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

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

### Operating Instructions

1. Determine the acreage to be treated by the sprinkler system.

2. Measure the appropriate amount of **Diazinon AG500** needed to treat the acreage to be treated. Refer to the specific directions for use for cranberries for the application rate and the amount of water per acre.

3. Add the pre-measured **Diazinon AG500** to the chemigation system supply tank and dilute with water if needed. Proper agitation is needed if **Diazinon AG500** is tank mixed with other pesticides registered for sprinkler chemigation application to cranberries.

4. Start the irrigation system and bring the system up to full pressure, making certain that all sprinkler heads are functioning properly.
5. Engage the chemigation injection or venturi system to add the diazinon to the irrigation lines.
6. Continue to run irrigation system for a few minutes after supply tank is empty to allow material in the irrigation lines to reach the sprinkler heads further from the chemigation injection point.

### **WORKER SAFETY RULES**

REPEATED EXPOSURES TO CHOLINESTERASE INHIBITORS SUCH AS ARE CONTAINED IN THIS PRODUCT MAY, WITHOUT WARNING, CAUSE PROLONGED SUSCEPTIBILITY TO VERY SMALL DOSES OF ANY CHOLINESTERASE INHIBITOR.

When handling **Diazinon AG500**, do not rub eyes or mouth with hands. If you feel sick in any way, STOP work and get help right away. See PRACTICAL TREATMENT section of this label.

### **STATE SPECIFIC REENTRY REQUIREMENTS**

NOTE: The California Department of Agriculture has a 5-day reentry period for diazinon on grapes, peaches, and nectarines. Five days should elapse between the time of application and the time a worker may enter the field to engage in any activity requiring substantial contact with treated foliage. When a mixture of two or more organophosphate pesticides are applied in combination, the interval should be prolonged by adding to the largest applicable interval an additional 50% of that interval.

### **FRUIT AND NUT CROPS**

**Diazinon AG500** may be applied using ground or aerial application equipment for certain crops as follows in the table below. The specific amount of product to be used appears under separate directions for use for each crop.

Crop	Air	Minimum Gallons/ Acre	Ground	Minimum Gallons/Acre	
				Dilute	Concentrate
Almonds*	Yes	20	Yes	100	20
Apricots	Yes	20	Yes	100	20
Blackberries**	No	-	Yes	10	
Boysenberries**	No	-	Yes	10	
Cherries	Yes	20	Yes	100	20
Cranberries	No	-	Yes	400	
Dewberries**	No	-	Yes	10	
Grapes	No	-	Yes	20	
Loganberries**	No	-	Yes	10	
Nectarines	Yes	20	Yes	100	20
Peaches	Yes	20	Yes	100	20
Pineapples	No	-	Yes	200	
Plums	Yes	20	Yes	100	20
Prunes	Yes	20	Yes	100	20
Raspberries**	No	-	Yes	10	
Strawberries	No	-	Yes	10	
Walnuts*	Yes	20	Yes	100	20

\*CA only.

\*\*CA, OR, or WA only.

The rate of **Diazinon AG500** for concentrate ground and aerial sprays is based on a dilute full cover with conventional ground equipment applied at 300-600 gallons of water per acre. If directions call for 1 pt. of **Diazinon AG500** in 100 gallons of water, this amounts to 3-6 pts. per acre when applied at dilute ground spray volumes.

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

Crop	PHI*	No. of Applications Permitted Per Season
Almonds	45	5
Apricots	10	8
Blackberries	7	5
Boysenberries	7	5
Cherries	10	5
Cranberries	7	5
Dewberries	7	5
Grapes	18, 7	5
Loganberries	7	5
Nectarines	10	5
Peaches	20	5
Pineapples	7	8
Plums, Prunes	10	5
Raspberries	7	5
Strawberries	5	5
Walnuts	45	5

\*PHI=Pre-Harvest Interval, or the number of days between the last application and harvest, may vary based on use pattern selected-see specific directions for use for grapes.

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

**ALMONDS (CA only):** San Jose Scale, Parlatoria Scale-1-1½ pts. + 2-3 gallons dormant oil or 1-1½ gallons superior type oil in 100 gallons of water. Apply as a dormant spray. Do not apply more than 6 pts. of diazinon or 9 gallons of oil per acre. Spider Mites, Twig Borers-1-1½ pts. in 100 gallons of water. Apply as infestations occur. Repeat application after 14 days if necessary. Do not apply more than 6 pts. of diazinon per acre per application or make more than 3 applications per season. Do not apply within 45 days of harvest or illegal residues may occur. Almond hulls may be fed to livestock.

**APRICOTS:** Aphids, Brown Mites (Clover Mites), Twospotted Spider Mites, Olive Scale Crawlers, San Jose Scale Crawlers-1 pt. in 100 gallons of water. Apply as infestations occur. Repeat application after 14 days if necessary. Do not apply more than 6 pts. of diazinon per acre per application or make more than 4 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. Olive Scale Crawlers-½ pt. + 1½ gallons of light medium horticultural oil per 100 gals. of water. Apply when scale crawlers are present. Do not apply more than 6 pts. of diazinon per acre per application or make more than 4 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. Apricot Mealybugs-1 pt. per 100 gallons of water. Apply as a cover spray from petal fall to June to a maximum of 6 pts. per acre per application. Allow 14 days between applications and do not make more than 4 applications per season. Do not apply within 10 days of harvest or illegal residues may occur.

**CANEBERRIES (CA, OR and WA only) (Blackberries, Boysenberries, Dewberries, Loganberries, Raspberries):** Leafhoppers, Thrips, Aphids, Twospotted Spider Mites, Raspberry Sawflies, Raspberry Fruitworms-1 qt. per acre. Apply as insects occur. Repeat applications after 14 days if necessary. Do not make more than 5 applications per season. Do not apply within 7 days of harvest or illegal residues may occur. Apply in a minimum of 100 gallons of water per acre (200 gals. per acre maximum.) For raspberry fruitworms, make one application when blossom buds separate. Make a second application immediately before blossoms open. Dryberry Mites-1-2 qts. per acre. Apply as a dormant spray in the early Spring when canes are still on the ground and buds are closed. Make a second application when buds are well developed but still closed. Apply in a minimum of 100 gallons of water per acre. Do not apply within 7 days of harvest or illegal residues may occur.

**Raspberry Crown Borers (Raspberry Root Borers)-2 qts. per acre.** Apply a single application in a minimum of 100 gallons of water per acre as a drench to the crown and lower canes in the Spring before buds break.

**CHERRIES:** Eyespotted Bud Moths, Fruit Tree Leafrollers-1 pt. in 100 gallons of water. Apply in cover sprays as infestations occur beginning at petal fall. Repeat application after 7 days if necessary. Do not apply more than 6 pts. of diazinon per acre per application or make more than 4 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. Leafhoppers-1 pt. in 100 gallons of water. Make 3-4 applications beginning at petal fall and continuing through the growing season as infestations occur. Do not apply more than 6 pts. of diazinon per acre per application. Allow 7 days between applications. Do not apply within 10 days of harvest or illegal residues may occur.

**CHERRIES (cont.): Cherry Fruitflies**- $\frac{1}{2}$ -1 pt. in 100 gallons of water. Make 3-4 applications beginning when adult flies begin to emerge and repeating at 10 day intervals. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur. **Black Cherry Aphids**-1 pt. in 100 gallons of water. Apply as a cover spray when aphids appear. Repeat application after 10 days if necessary. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur. **San Jose Scale Crawlers**-1 pt. in 100 gallons. Apply during the pre-pink stage or when crawlers first appear. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur. **Cherry Rust Mites**- $\frac{1}{2}$ -1 pt. in 100 gallons of water. Apply to trees as a single supplemental spray after harvest. Do not apply more than 6 pts. of diazinon per acre per application.

**CRANBERRIES: Blackheaded Fireworms (*Rhopobota naevana*)**-2 qts. in 400 gallons of water. Apply when pest appears. Repeat application after 14 days if necessary. A maximum of 6 applications per season is permitted. Do not apply within 7 days of harvest or illegal residues may occur. **Cranberry Fruitworms**-3 qts. in 400 gallons of water. Apply when pest appears. Repeat application after 14 days if necessary. A maximum of 4 applications per season is permitted. Do not apply within 7 days of harvest or illegal residues may occur. Note: This product may be applied to cranberries through sprinkler irrigation. Refer to the section "Chemigation" for specific chemigation directions for use.

**GRAPES: Pacific Spider Mites, Leafhoppers, Grape Berry Moths, Grape Leafrollers, Omnivorous Leafrollers, Aphids, Spider Mites**-1-2 pts. per acre. Apply as pest occurs as a thorough cover spray. Repeat application after 7 days if necessary. Do not make more than 5 applications per season. Do not apply within 18 days of harvest or illegal residues may occur. ***Drosophila* spp.**-6 fl. oz. per 100 gallons of water (300 gallon maximum per acre). Apply as a thorough cover spray when pest occurs. Repeat application after 7 days if necessary. Do not make more than 5 applications per season. ***Drosophila*** applications may be made up to 7 days before harvest if a spreader-sticker is not used. If a spreader-sticker is used, do not apply within 18 days of harvest or illegal residues may occur.

**NECTARINES: Oriental Fruitmoths**-1 pt. in 100 gallons of water. Apply at 100% petal fall. Make 2 additional applications at 10-15 day intervals. Time the last application to peak adult flight. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur. **Aphids, Brown Mites (Clover Mites), Twospotted Spider Mites, Olive Scale Crawlers, Peach Twig Borers**-1 pt. in 100 gallons of water. Apply as infestations occur. Repeat application after 14 days if necessary. Do not apply more than 6 pts. of diazinon per acre per application or make more than 4 applications per season. Do not apply within 10 days of harvest or illegal residues may occur.

**PEACHES: Aphids, Brown Mites (Clover Mites), Twospotted Spider Mites, Olive Scale Crawlers, San Jose Scale Crawlers**-1 pt. in 100 gallons of water. Apply as infestations occur. Repeat application after 14 days if necessary. Do not apply more than 6 pts. of diazinon per acre per application or make more than 4 applications per season. Do not apply within 20 days of harvest or illegal residues may occur.



**PEACHES (cont.): Oriental Fruitmoths**-1 pt. in 100 gallons of water. Apply at 100% petal fall. Make 2 additional applications at 10-15 day intervals. Time the last application to peak adult flight. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 20 days of harvest or illegal residues may occur. **Peach Twig Borers**-1 pt. in 100 gals. of water. Apply as insects occur in May and June. Allow 7 days between application. Do not apply more than 6 pts. of diazinon per acre per application or make more than 4 applications per season. Do not apply within 20 days of harvest or illegal residues may occur. **Leafhoppers**-1 pt. in 100 gallons of water. Make 3-4 applications beginning at petal fall and continuing through the growing season. Allow at least 7 days between applications. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 20 days of harvest or illegal residues may occur. **White Peach Scale**-1½-2 pts. in 100 gallons of water. Apply post-harvest timed to coincide with peak crawler and immature scale activity. Under conditions of heavy infestation, 2 applications (7 days apart) may be needed. Do not apply before fruit is harvested.

**PINEAPPLES: Pineapple Mealybugs**-2 qts. per acre. Apply in 200-500 gallons of water per acre. Repeat application as necessary every 28 days up to a maximum of 8 applications. Do not apply within 7 days of harvest or illegal residues may occur. Pineapple forage and refuse may not be fed to livestock.

**PLUMS: Brown Mites (Clover Mites), European Red Mites**-1 pt. in 100 gallons of water. Apply as needed every 7 days up to a maximum of 4 applications. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur. **Leafcurl Plum Aphids, Mealy Plum Aphids, Thistle Aphids**-½-1 pt. in 100 gallons of water. Apply as needed every 7 days up to a maximum of 4 applications. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur.

**PRUNES: Brown Mites (Clover Mites), European Red Mites**-1 pt. in 100 gallons of water. Apply as needed every 7 days up to a maximum of 4 applications. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur. **Leafcurl Plum Aphids, Mealy Plum Aphids, Thistle Aphids**-½-1 pt. in 100 gallons of water. Apply as needed every 7 days up to a maximum of 4 applications. Do not apply more than 6 pts. of diazinon per acre per application. Do not apply within 10 days of harvest or illegal residues may occur.

**STRAWBERRIES: Aphids, Twospotted Spider Mites**-1 pt. in 100 gallons of water per acre. Apply as pests occur. Repeat application if necessary every 7 days, but do not make more than 3 applications per season. Do not apply within 5 days of harvest or illegal residues may occur. **Cyclamen Mites**-1 qt. in 100 gallons of water per acre. Direct spray to the plant crowns. Plants should be sufficiently agitated to assure thorough coverage of the foliage. Repeat applications after 7 days if necessary. Do not apply within 5 days of harvest or illegal residues may occur. Application may be made to plants after harvest. Do not make more than 3 foliar applications per season. **Mole Crickets**-1 qt. per acre. Broadcast in sufficient water to obtain even coverage when insects are present. Apply 1-2 days before transplanting and immediately incorporate into the top 1-2 inches of soil.

**STRAWBERRIES (cont.): Strawberry Leafrollers**- $\frac{3}{4}$ -1 pt. in 100 gallons of water. Apply 200 gallons of spray per acre when blossoms show color. Do not apply within 5 days of harvest or illegal residues may occur.

**WALNUTS (CA only): Aphids, Spider Mites**-1 qt. per acre. Apply as a foliar spray. Repeat application in 14 days if necessary. Do not make more than 3 applications per season. Do not apply within 45 days of harvest or after husks open or illegal residues may occur. Make ground applications in a minimum of 100 gallons of water per acre. **Codling Moths, Scale Crawlers, Walnut Caterpillars**-3 qts. per acre. Apply as a foliar spray. Repeat application in 14 days if necessary. Do not make more than 3 applications per season. Do not apply within 45 days of harvest or after husks open or illegal residues may occur. Make ground applications in a minimum of 100 gallons of water per acre.

### VEGETABLE CROPS

For foliar or soil applications, **Diazinon AG500** should always be applied as a spray in sufficient water to assure thorough coverage of the foliage or soil. **Diazinon AG500** may be applied aerially only to certain crops as indicated in the following table. The specific amount of product to be used appears under the separate directions for use for each crop.

Crop	Ground Appi.	Min. Gallons /Acre	OR	Min. Gals. /1,000 Sq. Ft.	Air Appl.	Min. Gallons /Acre
Beans, Lima, Snap, and Pole (succu- lent only)	Yes	10		2	No	-
Beets, Red (Table)	Yes	10		2	No	-
Broccoli	Yes	10		2	No	-
Brussels Sprouts	Yes	10		2	No	-
Cabbage	Yes	10		2	No	-
Cantaloupes	Yes	5		1	No	-
Carrots	Yes	10		2	No	-
Casabas	Yes	5		1	No	-
Cauliflower	Yes	10		2	No	-
Celery	Yes	10		2	No	-
Chinese Broccoli	Yes	10		2	No	-
Chinese Cabbage	Yes	10		2	No	-
Chinese Mustard	Yes	10		2	No	-
Chinese Radish (FL, CA only)	Yes	10		2	No	-
Collards	Yes	10		2	No	-
Crenshaws	Yes	5		1	No	-
Cucumbers	Yes	5		1	No	-
Endive (Escarole)	Yes	10		2	No	-
Ginseng	Yes	10		2	No	-
Honeydew Melons	Yes	5		1	No	-
Kale	Yes	10		2	No	-
Lettuce, Head	Yes	10		2	Yes	5

Crop	Ground Appl.	Min. Gallons /Acre	GR	Min. Gals. /1,000 Sq. Ft.	Air Appl.	Min. Gallons /Acre
Muskmelons	Yes	5		1	No	-
Mustard	Yes	10		2	No	-
Onions, Bulb and Green	Yes	10		2	No	-
Parsley	Yes	10		2	No	-
Parsnips	Yes	10		2	No	-
Peas (succulent only)	Yes	10		2	No	-
Peppers	Yes	10		2	No	-
Persian Melons	Yes	5		1	No	-
Potatoes (Irish)*	Yes	10		2	No	-
Radishes	Yes	10		2	No	-
Spinach	Yes	10		2	No	-
Squash, Summer	Yes	5		1	No	-
Squash, Winter	Yes	5		1	No	-
Sweet Corn	Yes	20		4	No	-
Sweet Potatoes	Yes	10		2	No	-
Swiss Chard	Yes	10		2	No	-
Tomatoes	Yes	10		2	Yes	5
Turnips	Yes	10		2	No	-
Watermelons	Yes	5		1	No	-

\*Do not use on commercially grown potatoes which will be hand-harvested.

Observe stated time intervals between last application and harvest as well as intervals between and maximum numbers of applications per season.

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

Crop	PHI (Days)
Beans, (Lima, Snap, Pole)	7
Beets, Red (Table)	14
Broccoli	5
Brussels Sprouts	7
Cabbage	7
Cantaloupes	3
Carrots	10
Casabas	3
Cauliflower	5
Celery	10
Chinese Broccoli	10
Chinese Cabbage	10
Chinese Mustard	10
Chinese Radish	10
Collards	10
Crenshaws	3
Cucumbers	7
Endive (Escarole)	10
Ginseng	30
Honeydew Melons	3
Kale	10
Lettuce	10
Muskmelons	3
Mustard	10
Onions (Green and Bulb)	10
Parsnips	10
Peas	0
Peppers	5
Persian Melons	3
Potatoes (Irish)	35
Radish	10
Spinach	7
Squash, Summer	7
Squash, Winter	3
Sweet Corn	0
Swiss Chard	12
Tomatoes	1
Turnip Tops	10
Watermelons	3

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

Notes: 1) Soil Incorporation: Following application of this product to control vegetable soil insects, immediately incorporate the product into the soil to the recommended depth (see TIMING/SPECIAL DIRECTIONS). For control of surface cutworms, incorporate 2-3 inches; for subterranean cutworms, incorporate 3-6 inches. 2) To Protect Bees: Foliar applications of this product should not be made to peas or beans if these crops or weeds in the treatment area are in bloom, or to corn during the pollen shed period.

**BEANS (Pole, Snap, or Lima-succulent only):** Cutworms-2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.)

**Wireworms**-3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Black Bean Aphids, Mexican Bean Beetles, Dipterous Leafminers**-1-1½ pts. per acre. Apply as insects occur. Repeat application, as necessary, every 5 days. Do not make more than 3 applications per season. Do not apply within 7 days of harvest or illegal residues may occur. Bean forage or bean hay may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay. Make cucumber beetle application in 100 gallons of water per acre. **NOTES:** 1)Diazinon will not control organophosphate-resistant leafminers. 2)To protect bees, do not apply foliarly if the crop or weeds in the treatment area are in bloom.

**Cucumber Beetles**-¾ pts. per acre. Apply as insects occur. Repeat application, as necessary, every 5 days. Do not make more than 3 applications per season. Do not apply within 7 days of harvest or illegal residues may occur. Bean forage or bean hay may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay. Make cucumber beetle application in 100 gallons of water per acre. **NOTES:** 1)Diazinon will not control organophosphate-resistant leafminers. 2)To protect bees, do not apply foliarly if the crop or weeds in the treatment area are in bloom.

**BEANS, LIMA (succulent only):** Leafhoppers, Spider Mites-1 pt. per acre. Apply as pests occur. Repeat application, as necessary, every 5 days. Do not make more than 3 applications per season. Do not apply within 7 days of harvest or illegal residues may occur. Bean forage or bean hay may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay. **NOTES:** 1)Diazinon will not control organophosphate-resistant leafminers. 2)To protect bees, do not apply foliarly if the crop or weeds in the treatment area are in bloom.

**BEETS, RED (Table):** Cutworms-2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets**-1qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. **Wireworms**-3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Dipterous Leafminers**-½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 14 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**BROCCOLI:** Root Maggots-2-3 qts. per acre. Apply to plant beds or fields just before sowing of seed or transplanting and immediately incorporate into the top 3-4 inches of soil. **Root Maggots**-4-8 ozs. per 50 gals. of water. In transplant water as a drench application when 200-300 gals. of water are used per acre. Apply ½-1 cup (4 to 8 oz.) per plant by hand or by tractor mounted sprayer equipped with drop nozzles to direct spray to the base of the plant. **NOTE:** Transplant water treatments may result in stand reduction due to plant stress at time of transplanting. **Cutworms**-2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets**-1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. **Wireworms**-3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers**-½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 5 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**BRUSSELS SPROUTS:** Root Maggots - 2-3 qts. per acre. Apply to plant beds or fields just before sowing of seed or transplanting and immediately incorporate into the top 3-4 inches of soil. Root Maggots-4-8 oz. in 50 gals. of water. In transplant water as a drench application when 200-300 gals. of water are used per acre. Apply ½-1 cup (4 to 8 ozs.) per plant by hand or by tractor-mounted sprayer equipped with drop nozzles to direct spray to the base of the plant. NOTE: Transplant water treatments may result in stand reduction due to plant stress at time of transplanting. Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Diamondback Moths, Imported Cabbageworms - ½-1 pt. per acre. Apply as insects occur. Repeat application as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 7 days of harvest or illegal residues may occur.

**CABBAGE:** Root Maggots - 2-3 qts. per acre. Apply to plant beds or fields just before sowing of seed or transplanting and immediately incorporate into the top 3-4 inches of soil. Root Maggots-4-8 oz. in 50 gals. of water. In transplant water as a drench application when 200-300 gals. of water are used per acre. Apply ½-1 cup (4 to 8 ozs.) per plant by hand or by tractor-mounted sprayer equipped with drop nozzles to direct spray to the base of the plant. NOTE: Transplant water treatments may result in stand reduction due to plant stress at time of transplanting. Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers - ½-1 pt. per acre. Apply as insects occur. Repeat application as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 7 days of harvest or illegal residues may occur. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**CARROTS:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids - 1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur.

**CAULIFLOWER:** Root Maggots - 2-3 qts. per acre. Apply to plant beds or fields just before sowing of seed or transplanting and immediately incorporate into the top 3-4 inches of soil. Root Maggots-4-8 ozs. in 50 gals. of water. In transplant water as a drench application where 200-300 gals. of water are used per acre. Apply ½-1 cup (4 to 8 ozs.) per plant by hand or by tractor-mounted sprayer equipped with drop nozzles to direct spray to the base of the plant. NOTE: Transplant water treatments may result in stand reduction due to plant stress at time of transplanting. Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil.

**CAULIFLOWER (cont.): Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers** - ½-1 pts. per acre. Apply as insects occur. Repeat application, as necessary, up to 5 times, with a minimum of 7 days between application. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**CELERY: Cutworms** - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Flea Beetles, Cabbage Loopers** - 1 pt. per acre. Mix in 100 gallons of water to spray 1 acre (2¼ gallons for 1,000 sq. ft.) Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest. To avoid illegal residues, plants should be market trimmed (tops removed) before being shipped or used and tops should not be used for food or feed.

**CHINESE BROCCOLI: Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers** - ½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**CHINESE CABBAGE (BOK CHOY AND NAPA): Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers** - ½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**CHINESE MUSTARD (GAI CHOY): Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers** - ½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**CHINESE RADISH (JAPANESE RADISH OR DAIKON) (FL and CA Only): Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers** - 1 pt. per acre. Mix in a minimum of 100 gallons of water per acre and apply as a foliar spray as pests occur. Repeat application as necessary, every 14 days. Do not make more than 3 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**COLLARDS: Cutworms** - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. **Wireworms** - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Diamondback Moths, Imported Cabbageworms, Harlequin Cabbagebugs, Corn Earworms** - Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur.



**CUCUMBERS:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Serpentine Leafminers, Thrips, Striped Cucumber Beetles, Melonworm - 1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 7 days of harvest or illegal residues may occur. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**ENDIVE (ESCAROLE):** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Dipterous Leafminers - 1/2-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**GINSENG:** Leafhoppers, Aphids, Lygus Bugs, Flea Beetles, Jumping Plant Lice - 3/4-1 pt. per acre. Spray when insects first appear. For heavy insect infestations, use 1 pt. per acre. Apply by ground equipment using 10 to 100 gals. of water per acre. Do not apply more than one application per growing season. Do not apply during flowering of three or four year old crops. Do not apply within 30 days of harvest. Do not graze treated areas or feed treated forage to livestock.

**KALE:** Cutworm - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Diamondback Moths, Imported Cabbageworms, Harlequin Cabbage Bugs, Corn Earworms - 1/2-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur.

**LETTUCE:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Dipterous Leafminers - 1/2-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**MELONS (CANTALOUPE, CASABAS, CRENSHAW, HONEYDEW, MUSKMELON, PERSIAN, AND HYBRIDS OF THESE) AND WATERMELONS:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Dipterous Leafminers, Thrips, Striped Cucumber Beetles, Melonworms, Leafhoppers, Spider Mites - 1/2-1 1/2 pts. per acre. Apply as insects

occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 3 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**MUSTARD:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers -  $\frac{1}{2}$ -1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**ONION (GREEN & BULB):** Onion Maggots - 2-4 qts. per acre. Broadcast just before planting and mix into the top 3-4 inches of soil by disking, harrowing, or other suitable means. **NOTE:** Diazinon will not control organophosphate-resistant onion maggots. Onion Thrips - 1 pt. per acre. Apply as thrips appear. Repeat application, as necessary, every 7 days. Do not make more than 3 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into top 4-8 inches of soil.

**PARSLEY:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into top 4-8 inches of soil.

**PARSNIPS:** Aphids, Flea Beetles, Dipterous Leafminers -  $\frac{1}{2}$ -1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

**PEAS (SUCCULENT ONLY):** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Leafminers -  $\frac{3}{4}$ -1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 5 days. Do not make more than 3 applications per season. Peas may be picked immediately after application. Vines and hay may be fed to dairy and beef cattle and sheep. To avoid illegal residues, wait 4 days following treatment if forage is to be cut for hay. **NOTES:** 1) Diazinon will not control organophosphate-resistant leafminers. 2) To protect bees, do not apply foliarly if the crop or weeds in the treatment area are in bloom.

**PEPPERS:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Serpentine Leafminers -  $\frac{1}{2}$ -1 pt. per acre. Apply as insects appear. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 5 days of harvest or illegal residues may occur.

**POTATOES:** Cutworms (Surface & Subterranean) - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast before planting and immediately incorporate into the top 4-8 inches of soil. Southern Potato Wireworms (Southeastern U.S.) - 2-4 qts. per acre. For potatoes grown on mineral soils in the Southeast, apply before planting and immediately incorporate into the top 3-6 inches of soil depending on location of wireworms. NOTE: Do not use on commercially grown potatoes which will be hand-harvested. Aphids, Flea Beetles, Colorado Potato Beetles, Dipterous Leafminers -  $\frac{1}{2}$ - $\frac{3}{4}$  pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 35 days of harvest or illegal residues may occur. NOTE: Diazinon will not control organophosphate-resistant leafminers. Banded Cucumber Beetles, Leafhoppers, Southern Armyworms -  $\frac{1}{4}$ -1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 35 days of harvest or illegal residues may occur.

**RADISHES:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Flea Beetles, Dipterous Leafminers -  $\frac{1}{2}$ -1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**SPINACH:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Dipterous Leafminers -  $\frac{1}{2}$ -1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**SQUASH, SUMMER:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Serpentine Leafminers, Thrips, Striped Cucumber Beetles, Melonworms, Leafhoppers, Spider Mites -  $\frac{1}{2}$ -1 $\frac{1}{2}$  pts. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 7 days of harvest or illegal residues may occur. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**SQUASH, WINTER:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Serpentine Leafminers, Thrips, Striped Cucumber Beetles, Melonworms, Leafhoppers, Spider Mites -  $\frac{1}{2}$ -1 $\frac{1}{2}$  pts. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 3 days of harvest or illegal residues may occur. NOTE: Diazinon will not control organophosphate-resistant leafminers.

**SWEET CORN:** Cutworms 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Seed Corn Maggots 2-4 qts. per acre.

Broadcast just before planting and immediately incorporate into the top 2 inches of soil. **Wireworms** - 3-4 qts. per acre. Broadcast before planting and immediately incorporate into the top 4-8 inches of soil. **Corn Earworms** - 1-1½ qts. per acre. Apply when silks first appear. Repeat application every 7 days if necessary. Do not make more than 5 applications per season. Corn may be picked immediately following last application. Forage may be fed to beef and dairy cattle and sheep. **Corn Rootworm Adults** - ½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Corn may be picked immediately following last application. Forage may be fed to beef and dairy cattle and sheep. **Corn Leaf Aphids** - 1-2 pts. per acre. Apply in sufficient water to provide complete coverage to the upper portions of the plants. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Corn may be picked immediately following last application. Forage may be fed to beef and dairy cattle and sheep. **Grasshoppers, Spider Mites, Flea Beetles** - 1 pt. per acre. Apply as insects occur. Repeat, as necessary, every 7 days. Do not make more than 5 applications per season. Corn may be picked immediately following last application. Forage may be fed to beef and dairy cattle and sheep. **Sap Beetles** - 2-2½ pts. per acre. Consult local agricultural authorities for proper timing of sprays. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Corn may be picked immediately following last application. Forage may be fed to beef and dairy cattle and sheep. **NOTE:** To protect bees, do not apply foliarly to corn during the pollen shed period.

**SWEET POTATOES:** Wireworms, Flea Beetles - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil.

**SWISS CHARD:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Imported Cabbageworms, Diamondback Moths, Harlequin Cabbagebugs** - ½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 12 days of harvest or illegal residues may occur.

**TOMATOES:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Dipterous Leafminers** - ½ pt. per acre. Apply as insects appear. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within one day of harvest or illegal residues may occur. **Banded Cucumber Beetles, Fall Armyworms, Southern Armyworms, Beet Armyworms** - ¾-1 pt. per acre. Apply as insects appear. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within one day of harvest or illegal residues may occur. **Vinegar Flies (*Drosophila* Spp.)** ½-1½ pts. per acre. Apply as insects appear. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within one day of harvest or illegal residues may occur.

**TURNIPS AND TURNIP TOPS:** Cutworms - 2-4 qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - 1 qt. per acre. Apply to plant beds or fields 1-2 days before sowing of seed or transplanting and immediately incorporate into the top 1-2 inches of soil. Wireworms - 3-4 qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Flea Beetles, Dipterous Leafminers - ½-1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 10 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

### MUSHROOM HOUSES

**Mushroom Flies - (Phorids and Sciarids)** - Mix ½ to 1 gallon in 50 gallons of water and spray on outside and inside walls and ventilators of mushroom houses after compost has been pasteurized by heating. **NOTE:** Do not spray compost in beds or after spawning because illegal residues may result.

To treat wooden sides of beds, posts, doors, and door frames, after pasteurizing, mix ½ pint in 6 gallons of water and apply with a brush. **NOTE:** Do not apply this treatment after spawning. Do not treat compost.

### FIELD CROPS

Soil and foliar applications of **Diazinon Ag-500** should always be applied as a spray in sufficient water to ensure thorough coverage. For foliar applications, observe stated time intervals between last application and harvest, as well as intervals between applications and total number of application that can be made per season.

Preharvest Interval (PHI\*) for Foliar Applications

Crop	PHI (Days)
Hops	14
Sugar Beets	7

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

**HOPS:** Aphids, Spider Mites - 1 qt. per acre. Apply as pest occur. Repeat application, as necessary, every 14 days. Do not make more than 5 applications per season. Do not apply within 14 days of harvest.

**SUGAR BEETS:** Wireworms - 3-4 qts. per acre. Broadcast just before planting. Incorporate into soil 4-6 inches. Do not apply more than 4 qts. of this product to the soil, per season. Tops may be fed to beef and dairy animals. **Beef Leafhoppers, Dipterous Leafminers, Aphids** - ¾-1 pt. per acre. Apply as insects occur. Repeat applications, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 7 days of harvest. Tops may be fed to beef and dairy animals. **NOTE:** Diazinon will not control organophosphate-resistant leafminers. **Grasshoppers** - 1 pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. Do not apply within 7 days of harvest. Tops may be fed to beef and dairy animals.

## GRASSLAND INSECTS

Unless otherwise state, Diazinon AG-500 should always be applied as a spray in a minimum of 1 gallon water per acre for aerial applications and in a minimum of 5 gallons of water per acre for ground application.

### Ditch Banks, Roadsides, Wasteland, Noncrop Areas, Barrier Strips

**Grasshoppers:** Apply  $\frac{1}{4}$ -1 pts. per acre in water or oil (minimum of 1 gallons of oil per acre) when insects first appear, preferably in the nymphal stage. Thorough coverage of the foliage is essential. Do not graze or use treated grass for forage or feed.

## INSECT CONTROL ON ORNAMENTALS

To control certain insects on Arborvitae, Azalea, Birch, Boxwood, Camellia, Carnation, Chrysanthemum, Douglas Fir, Elm Gladioli, Hawthorn, Holly, Juniper, Lilac, Locust, Maple, Oak, Pine, Ornamental Plum, Poplar, Rhododendron, Rose, Spruce, and Willow, apply the recommended rates indicated below. Try to spray underside of leaves and penetrate dense foliage.

**Aphids, bagworms, carnation bud mites, carnation shoot mites, clover mites, cyclamen mites, dipterous leafminers, European pine shoot moths, European red mites, flea beetles, holly bud moths, leafhoppers, obscure root weevils, omnivorous leaf tiers, privet mites, scale crawlers (cottony cushion, lecanium, pine needle, San Jose, soft scale), thrips, twospotted spider mites, webworms, and whiteflies-**Use  $\frac{1}{2}$  fl. oz.\* per 3 gallons of water or 1 pt.\*\* per 100 gallons of water. **Apple-and-thorn skeletonizers, cotoneaster webworms, fall webworms, hemlock cherms, oak loopers, obliquebanded leafrollers, pear slugs, and tent caterpillars-**Use  $1\frac{1}{2}$  fl oz.\* per 3 gallons of water or 3 pts.\*\* per 100 gallons of water.

\*1 fl. oz. = 2 tablespoon

\*\*16 fl. oz. = 1 pint

Precaution: Do not use on Ferns, Poinsettia, Hibiscus, Papaya, Pilea, and Gardenia, since injury to the plants may occur.

**Mimosa Webworms:** Mix  $\frac{1}{2}$  fl. oz. in 3 gallons of water (or 1 pt. in 100 gallons of water) and apply as a thorough foliar spray when adults first appear. Make a second and third application at 4-5 week intervals.

## LAWN PEST CONTROL (EXCLUDING GOLF COURSES AND SOD FARMS)

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 migrate 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 0.25 inch water immediately after application, however, stop watering before puddling occurs.

**Lawn Chinch Bugs-**Use 2-3 fl. ozs. in 3 gals. of water per 1,000 square feet. Use higher rate for longer residual control and in lawns of dense growth, such as St. Augustine lawns.

**Ants, Armyworms, Bermudagrass Mites, Clover Mites, Springtails (Collembola), Crickets, Cutworms, Digger Wasps, Earwigs, Frit Flies, Lawn Billbugs, Leafhoppers, Sod Webworms (Lawn Moths), and Sowbugs (Billbugs)**-Use 2-3 fl. oz. in 3 gallons of water per 1,000 square feet. Spot spray ant hills. For digger wasps, spot spray wasp ground nest openings and apply at dusk when wasps are not active. For frit flies, mow grass and water well before treatment, but delay application until grass is dry. For billbug control, apply when activity is first observed or when chewed or brown grass is present, indicating damage from insects. **Brown Dog Ticks, Chiggers, and Fleas**-Use 3 fl. oz. in 3 gallons of water per 1,000 square feet. For brown dog ticks, spray grass and under shrubbery, particularly near house. **NOTE:** Do not apply to animals. **Millipedes**-Use 3 fl. oz. in 3 gallons of water per 1,000 square feet. **Rhodesgrass Scales**-Use 3 fl. oz. in 3 gallons of water per 1,000 square feet. Apply when crawlers first emerge. **White Grubs (such as Japanese Beetle Larvae, European Chafer, Southern Chafer)**-Apply 3 fl. oz. per 1,000 sq. ft. of lawn. For grub control, make application any time between last July and early October. **Hyperodes Weevil**-Apply 3 fl. oz. per 1,000 sq. ft. of grass. Treat problem areas in mid-April and again in mid-May.

**NUISANCE PESTS IN OUTSIDE AREAS:** **Ants, Boxelder Bugs, Brown Dog Tick, Chiggers, Clover Mites, Cockroaches, Crickets, Earwigs, Fleas, Flies, Millipedes, Sowbugs (Billbugs), Spiders, Springtails (Collembola)**-Mix 3 fl. oz. in 3 gals. of water. 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.

#### **CONDITIONS OF SALE - LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES**

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions, the failure to follow the label directions, or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man, or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damage and in no event shall damages or any other recovery of any kind against the Company exceed the price of the product which causes the alleged loss, damage, injury, or other claim. The Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income.

The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability, and remedies



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

AUG 19 1994

Judy Oldham  
Helena Chemical Company  
6075 Popular Ave., Suite 500  
Memphis, TN 38119

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Subject: Label Amendment Submissions of 6/30/93 & 9/1/93 in Response to PR  
Notice 93-7  
EPA Reg. No. 5905-248  
HELENA DIAZINON AG 500 INSECTICIDE (Restricted & Non-restricted)

**IMPORTANT NOTICE:** This Letter Requires You to Submit a Notification to the Office  
of Compliance Monitoring within 20 Days.

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments listed on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

**SERIOUS ERROR(S) ON SUBMITTED LABELING:**

EPA has determined that one or more of the errors on the labeling you submitted to the Agency is categorized as "serious" as defined in PR Notice 93-11. In general, serious errors are those that may create a potential for harm to workers, handlers, other persons, or the environment; or those that prevent the achievement of the basic goals of the Worker Protection Standard (WPS) or FIFRA.

**YOU MUST NOT SELL OR DISTRIBUTE (INCLUDING RELEASE FOR SHIPMENT) ANY PRODUCT BEARING THE SUBMITTED LABELING.** Sale or distribution of any product with the incorrect labeling is a violation of FIFRA that could result in initiation of an action for civil penalties and/or cancellation of your product. This matter has been referred to the Office of Compliance Monitoring (OCM) for further action.

**YOU MUST SUBMIT A NOTIFICATION TO THE OFFICE OF COMPLIANCE MONITORING WITHIN 20 DAYS OF THE DATE OF THIS LETTER.**



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber



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Each notification must include the following information:

1. Registrant's name and address.
2. EPA Registration number of the product for which the labeling was submitted.
3. Whether any product already has been sold or distributed (this includes released for shipment) bearing the submitted labeling.

In addition, the notification must include the following information, IF you have already sold or distributed any product bearing the submitted labeling:

1. Quantity of the product that has been sold or distributed.
2. EPA Producing Establishment number.
3. Location of the product, if known.
4. Proposed plan for assuring that product with the incorrect labeling in your control, as well as that in the hands of dealers/distributors/users, will be corrected. The plan must include your proposal for assuring that the labeling is corrected as soon as possible.

Submit the notification to:

Michael Wood, Director  
Compliance Division, (7203)  
Worker Protection Notification  
Office of Compliance Monitoring  
U.S. Environmental Protection Agency  
401 M Street SW  
Washington, DC 20460

Failure to submit a notification also may result in initiation of an action under FIFRA for civil penalties, if you sold or distributed (this includes released for shipment) product bearing the incorrect labeling.

**IN ADDITION, YOU SHOULD CONTACT IMMEDIATELY THE PERSONS TO WHOM YOU SOLD OR DISTRIBUTED YOUR PRODUCT AND INFORM THEM NOT TO SELL OR DISTRIBUTE ANY PRODUCT WITH THE INCORRECT LABELING.**

**WHAT THIS ACCEPTANCE MEANS:**

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the WPS labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have neither been reviewed nor accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

**WHAT YOU NEED TO DO NEXT:**

Submit the required notification. Then by the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling as amended

**AND**

- WITHIN one year from date of this acceptance.

Submit the final printed labeling via the U.S. Postal Service to:

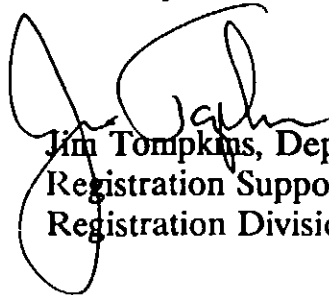
Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs (7505C)  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460-0001

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Hand or courier deliveries of final labeling may be made to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs  
Room 266A, Crystal Mall 2  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Tompkins", is written over the typed name and title.

Jim Tompkins, Deputy Chief  
Registration Support Branch  
Registration Division (7505W)

Attachment

cc: Office of Compliance Monitoring

Judy Oldham  
Helena Chemical Company

Comments for: EPA REG. NO. 5905-248  
DIAZINON AG500 INSECTICIDE (restricted use and  
non-restricted use labels.

The following specific comments pertain to your WPS labeling  
submission concerning the product cited above:

The bodywear requirement for early entry in the Agricultural Use  
Requirements Box on your proposed labeling should be "Coveralls  
over short-sleeved shirt and short pants. Remove the current  
"Coverallss" and replace it with "Coveralls over short-sleeved  
shirt and short pants".

Move the statement "Do not apply this product in a way that will  
contact workers or other persons, either directly or through  
drift. Only protected handlers may be in the area during  
application." from its current position in the Agricultural Use  
Box to the "Directions for Use section before "For any  
requirements specific to your State or Tribe ....."

**THIS PRODUCT MUST NOT BE USED ON GOLF COURSES AND SOD FARMS.**

**HELENA  
DIAZINON® AG500  
INSECTICIDE**

This product contains 4 lbs. Diazinon per gallon  
For Control of Certain Insects on Fruits, Nuts, Vegetables,  
Field Crops, Lawns and Ornamentals.

**ACTIVE INGREDIENT:**

O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl)	
phosphorothioate.....	48.50%
Xylene .....	37.80%
INERT INGREDIENTS.....	13.70%
<b>TOTAL.....</b>	<b>100.00%</b>

**KEEP OUT OF REACH OF CHILDREN**

**WARNING**

**AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

**See Additional Warnings on Side Panel**

**EPA REG. NO.:** 5905-248

**EPA EST. NO.:** First letters of product

batch code indicate producing

establishment: 5905-GA-1=CG.

5905-AR-1=WA. 5905-CA-1=KC.

5905-IA-1=DI. 5905-FL-1=T

**NET CONTENTS:**

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated**

**AUG 19 1994**

**MANUFACTURED BY  
HELENA CHEMICAL COMPANY  
MEMPHIS, TN 38137**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
5905-248

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**  
**WARNING**

May be fatal if swallowed. May be absorbed through skin. Do not breathe spray mist. Do not get in eyes, on skin, or on clothing. Avoid contamination of food and feed. Do not use on humans.

Keep out of reach of domestic animals. Do not contaminate feed or use on household pets or live-stock.

**PERSONAL PROTECTIVE EQUIPMENT**

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

**Applicators and other handlers must wear:**

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber or viton
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations**

Users should:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

**STATEMENT OF PRACTICAL TREATMENT**  
**Organophosphate**

**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. Repeat until vomit fluid is clear. Do not induce vomiting or give anything by mouth to an unconscious person.

**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:** Gastric lavage is indicated. Contains a petroleum-based solvent which presents

aspiration hazard. Atropine sulfate and 2-PAM are specific antidotes.

### ENVIRONMENTAL HAZARDS

This product is highly toxic to birds, fish and other wildlife including waterfowl. Birds and waterfowl feeding or drinking on treated areas may be killed. Apply this product only as specified on this label. Do not exceed maximum permitted label rates, as 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" of water immediately after application. Stop irrigation before puddling occurs. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply to water that will be used for recreational purposes and human and livestock consumption. 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. This product must not be used in areas where impact on threatened endangered species is likely. Contact your State Fish and Game Agency for information pertaining to areas having threatened endangered species. Apply this product only as specified on this label.

This pesticide is highly toxic to bees exposed to direct treatment or to residues remaining on the treated area. Do not apply when bees are actively visiting the crop, cover crop, or weeds blooming in 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.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

Exception: If the product is soil-incorporated or soil-injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

Coveralls

Chemical-resistant gloves, such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, or Viton.

Chemical-resistant footwear plus socks

Protective eyewear

Chemical-resistant headgear for overhead exposure

#### **Non-Agricultural Use Requirements**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. Keep children and pets out of the treated area until sprays have dried.

#### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

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

**Container:**

Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or incinerate, or, if allowed by state and local authorities. Stay out of smoke from burning container.



# GENERAL INFORMATION

Diazinon AG-500 is an emulsifiable solution which when diluted with water according to the directions below is intended for the control of insect pests of agricultural crops.

Do not use in barns or dwellings. Do not use on livestock.

In the directions for use given below, best control is obtained when application is made at first sign of insects. Application should be repeated as necessary to maintain control.

NOTE: The California Department of Agriculture has set a 5-day re-entry for Diazinon\* on citrus, grapes, peaches and nectarines. Five days should lapse between the time of application and the time a worker may enter the field to engage in any activity requiring substantial contact with treated foliage. When a mixture of two or more organic phosphate pesticides are applied in combination, the interval should be prolonged by adding to the longest applicable interval an additional 50% of that interval.

Do not apply through any type of irrigation system.

## FRUIT AND NUT CROPS

NOTE: Unless otherwise stated, the rates listed below should be applied as a dilute full cover spray.

ALMONDS: Mites, Twig Borers — Apply 1-1½ pts. per 100 gals. of water. Parlatoria Scales, San Jose Scales — Mix 1-1½ pts. Diazinon AG-500 2-3 gals. dormant oil per 100 gals. of water and apply as a dormant spray. Almond hulls may be used for feed for livestock.

APRICOTS: Aphids, Brown Mites (Clover Mites), Two-Spotted Spider Mites, Olive Scale Crawlers, San Jose Scale Crawlers — Mix 1 pt. per 100 gals. of light medium horticultural oil per 100 gals. of water. Apply when scale crawlers are present. Apricot Mealybugs — Mix 1 pt. per 100 gals. of water. Apply as a cover spray from petal fall to June. Do not apply within 10 days of harvest.

BLUEBERRIES: Cranberry Fruitworms, Cherry Fruitworms, Blueberry Maggots, Aphids, Thrips, Two-Spotted Mites — Mix 1 pt. per 100 gals. of water. Apply up to 200 gals. of spray per acre. Do not apply within 7 days of harvest.

CANEBERRIES: Blackberries, Boysenberries, Dewberries, Loganberries, Raspberries, Leafhoppers, Thrips, Aphids, Two-Spotted Mites, Raspberry Sawflies — Apply 2 pts. per acre in a minimum of 100 gals. of water. Raspberry Fruitworms — Apply at the above rates when blossom buds separate and repeat application immediately before blossoms open. Dryberry Mites — Apply 1-2 qts. per acre in a minimum of 100 gals. of water. Apply as a dormant spray in early spring, when canes are still on the ground and buds are closed. Make a second application when the buds are well developed, but still closed. Do not apply within 7 days of harvest. Raspberry Crown Borers (Raspberry Root Borers) — Apply 2 qts. per acre in a minimum of 100 gals. of water as a drench to the crown area and to the lower canes. Apply either in the spring before berries begin to form, or in the fall after harvest.

CHERRIES: Eye-Spotted Bud Moths, Fruit-Tree Leaf Rollers — Mix 1 pt. per 100 gals. of water. Apply in cover sprays as necessary, beginning with petal fall. Leafhoppers — Apply 1 pt. per 100 gals. of water in 3-5 applications beginning at petal fall and continuing through the growing season, or apply as infestations develop. Cherry Fruit Flies — Mix ½-1 pt. per 100 gals. of water. Make 3 or 4 applications, beginning when adult cherry fruit flies begin to emerge and repeat at 10-day intervals. Black Cherry Aphids — Mix 1 pt. per 100 gals. of water. Apply as cover spray when aphids appear and repeat after 10 days. San Jose Scale Crawlers — Mix 1 pt. per 100 gals. of water. Apply during the pre-pink stage or when crawlers first appear. Do not apply within 10 days of harvest. Cherry Rust Mites — Mix ½-1 pt. per 100 gals. of water. Apply as a supplemental spray after harvest.

CITRUS FRUITS: Grapefruit, Lemons, Limes, Oranges, Tangelos, Tangerines, Citrus Citron, Kumquats, and hybrids of these: Citrus Aphids, Fruit-Tree Leaf Rollers, Cottony-Cushion Scale Crawlers, and Soft Scale Crawlers — Apply ½-1 pt. per 100 gals. of water (maximum 1,000 gals. per acre) as a thorough cover spray when aphids and crawler stages of scale insects first appear. Fruit-Tree Leaf Rollers — Use ½-1 pt. per 100 gals. of spray (maximum 1,000 gals. per acre) when an average of 50 percent of eggs in egg masses have hatched in the spring. Citrus Thrips — Apply 1 pt. per 100 gals. of water (maximum 1,000 gals. per acre) when thrips first appear. Citrus Snow Scales — Apply 1-2 pts. per 100 gals. of water (maximum 1,000 gals. per acre) as a post-bloom spray and again as a summer spray. For heavy snow scale infestations use the higher dosage rate. Thorough coverage of tree trunks, limbs, and twigs is essential. Do not apply during bloom. Do not apply to citrus within 21 days of harvest.

CRANBERRIES: Blackheaded Fireworms (*Rhopobota naevana*) — Apply 2 qts. in 400 gals. of water per acre. Cranberry Fruitworms — Apply 3 qts. in 400 gals. of water per acre. Do not apply within 7 days of harvest.

FIGS: Vinegar Flies (*Drosophila* spp.), Dried Fruit Beetles — Apply 1 pt. per 100 gals. of water. Do not apply within 5 days of harvest.

FILBERTS: Filbert Leaf Rollers, Aphids — Apply 1-2 qts. in 250-400 gals. of water per acre, as a thorough cover spray.

GRAPES: Pacific Spider Mites, Leafhoppers, Grape Berry Moths, Grape Leaf Folders — Apply 1-2 pts. per acre in a minimum of 100 gals. of water as a thorough cover spray. Do not apply within 18 days of harvest. *Drosophila* spp. — Apply 12-18 fl. oz. per acre in a minimum of 100 gals. of water as a thorough cover spray, or apply when insects first appear. Make additional applications at weekly intervals as necessary. Do not apply within 7 days of harvest.

**OLIVES:** Olive Scales — Mix  $\frac{3}{4}$ -1 pt. of Diazinon AG-500 plus  $1\frac{1}{2}$  gals. of light medium summer horticultural oil per 100 gals. of water. Apply as a cover spray in June or July. Do not apply during bloom to avoid injury to pollinating insects or within 75 days of harvest.

**PEACHES AND NECTARINES:** Aphids, Brown Mites (Clover Mites), Two-Spotted Spider Mites, Olive Scale Crawlers, San Jose Scale Crawlers — Mix 1 pt. per 100 gals. of water. Apply when aphids, mites, and scale crawlers first appear. Olive Scale Crawlers — Mix  $\frac{1}{2}$  pt. of Diazinon AG-500 plus  $1\frac{1}{2}$  gals. light medium horticultural oil per 100 gals. of water. Apply when scale crawlers are present. Oriental Fruit Moths — Mix 1 pt. per 100 gals. of water and apply at 100% petal fall. Make 2 additional applications at 10-15 day intervals. Time the last application to peak adult Oriental Fruit Moth flight, if possible. Peach Twig Borers — Mix 1 pt. per 100 gals. of water and apply to peaches in May and June. Leafhoppers (Peaches only) — Apply 1 pt. per 100 gals. of water in 3-5 applications beginning at petal fall and continuing through the growing season, or apply as infestations develop. White Peach Scale (Peaches only) — As a post-harvest spray apply  $1\frac{1}{2}$ -2 pts. per 100 gals. of water timed to coincide with peak crawler and immature scale activity. Under conditions of heavy infestations 2 applications may be necessary. Do not apply to peaches within 20 days, or to nectarines within 10 days of harvest.

**PECANS:** Aphids, Mites, Pecan Nut Casebearers, Walnut Caterpillars — Apply 1-3 qts. per acre as a foliage spray in a minimum of 100 gals. of water. Do not apply after husks crack.

**PINEAPPLES:** Scales — Apply 5 qts. of Diazinon AG-500 plus 2 gals. of light or medium horticultural oil in 500 gals. of water per acre to the vegetative slips on the plants following harvest of pineapple. Mealybugs — Apply 2 qts. per acre in a minimum of 100 gals. of water. May be applied on day of harvest. Pineapple forage and refuse may be fed to livestock 7 days following last application.

**PLUMS AND PRUNES:** Brown Mites (Clover Mites), European Red Mites — Apply 1 pt. per 100 gals. of water. Leaf Curl Plum Aphids, Mealy Plum Aphids, Thistle Aphids — Apply  $\frac{1}{2}$ -1 pt. per 100 gals. of water. Do not apply within 10 days of harvest.

**STRAWBERRIES:** Aphids, Two-Spotted Spider Mites — Apply 1 pt. per 100 gals. of water per acre. Cyclamen Mites — Apply 1 qt. per 100 gals. of water per acre, directing spray to plant crowns. Plants should be sufficiently agitated to assure thorough coverage of the foliage. Make additional applications, if necessary, after harvest. Mole Crickets — Broadcast 1 qt. per acre when insects are present. Apply 1 to 2 days before transplanting and mix into the top 1-2 inches of soil immediately. Strawberry Leaf Rollers — Mix  $\frac{3}{4}$ -1 pt. per 100 gals. of water. Apply 200 gals. of spray per acre when blossoms show color. Do not apply within 5 days of harvest.

**WALNUTS:** Aphids, Mites — Apply 1 qt. per acre as a foliage spray in a minimum of 100 gals. of water. Codling Moths, Scale Crawlers, Walnut Caterpillars — Apply 3 qts. per acre as a foliage spray in a minimum of 100 gals. of water. Do not apply after the husks open.

**VEGETABLE FOLIAR INSECTS:** Unless otherwise stated, foliar applications of Diazinon AG-500 should always be applied to vegetable crops as a spray in a minimum of 1 gal. of water per acre for aerial applications and a minimum of 10 gals. of water per acre for ground applications.

**BEANS:** Pole Beans, Snap Beans, Lima Beans: Black Bean Aphids, Mexican Bean Beetles, Leaf Miners — Apply 1-1  $\frac{1}{2}$  pts. per acre. Cucumber Beetles — Apply  $\frac{3}{4}$  pt. in 100 gals. of water per acre. Do not apply within 7 days of bean harvest. Bean forage or bean hay may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay.

**LIMA BEANS:** Dipterous Leaf Miners, Leafhoppers, Mites — Apply 1 pt. per acre. Do not apply within 7 days of harvest. Bean forage or bean hay may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay.

**BROCCOLI, CABBAGE AND CAULIFLOWER:** Aphids, Diamondback Moth, Imported Cabbageworms — Apply  $\frac{1}{2}$ -1 pt. per acre. Do not apply within 7 days of harvest. Bean forage or bean hay may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay.

**BRUSSELS SPROUTS:** Aphids, Diamondback Moths, Imported Cabbageworms — Apply 1 pt. per acre. Generally, applications at 7-10 day intervals will be required. Do not apply to brussels sprouts within 7 days of harvest.

**CARROTS:** Aphids — Apply 1 pt. per acre. Do not apply within 10 days of harvest.

**CELERY:** Aphids, Flea Beetles — Apply 1 pt. in 100 gals. of water per acre. Do not apply within 10 days of harvest. Plants should be market trimmed (tops removed) before being shipped or used. Tops should not be used for feed or food.

**COLLARDS, KALE, SWISS CHARD, AND TURNIP TOPS:** Aphids, Imported Cabbageworms, Diamondback Moths, Harlequin Cabbage Bugs, Corn Earworms —  $\frac{1}{2}$ -1 pt. per acre. Do not apply to collards, kale, or turnip tops within 10 days, Swiss chard within 12 days of harvest.

**CUCUMBERS:** Aphids, Serpentine Leaf Miners, Thrips — Apply 1 pt. per acre. Do not apply within 7 days of harvest.

**LETTUCE AND ENDIVE:** Aphids, Dipterous Leaf Miners — Apply  $\frac{1}{2}$ -1 pt. per acre. Do not apply within 10 days of harvest.

**MELONS AND SQUASH:** Cantaloupes, Casabas, Crenshaws, Honeydew Melons, Muskmelons, Persian Melons, and hybrids of these Watermelons and their Hybrids, Summer and Winter Squash: Aphids, Leafhoppers, Mites — Apply 1-1  $\frac{1}{2}$  pts. per acre. Serpentine Leaf Miners, Thrips — Apply  $\frac{1}{2}$ -1 pt. per acre. Do not apply to melons and winter squash within 3 days or to summer squash within 7 days of harvest.

**MUSHROOM HOUSES:** Mushroom Flies (Phorids and Sclerids) — Mix  $\frac{1}{2}$ -1 gal. in 50 gallons of water (05% to 10% actual Diazinon) and spray on outside and inside walls and ventilators of mushroom houses, after compost in beds has been pasteurized by heating. Do not spray compost in beds or after spawning. To treat wooden sides of beds, posts, doors and door frames after pasteurizing, mix  $\frac{1}{2}$  pt. in 6 gals. of water and apply with a brush. Do not treat compost.

**ONIONS:** Onion Thrips — Apply 1 pt. per acre. Do not apply within 10 days of harvest.

**PEAS:** Aphids, Leaf Miners — Apply  $\frac{3}{4}$ -1 pt. per acre. Peas may be picked immediately. Pea vines and pea vine hay may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay.

**PEPPERS:** Aphids, Serpentine Leaf Miners — Apply  $\frac{1}{2}$  pt. per acre. Do not apply within 5 days of harvest.

**POTATOES:** Aphids, Flea Beetles, Colorado Potato Beetles, Dipterous Leaf Miners — Apply  $\frac{1}{2}$ - $\frac{3}{4}$  pt. per acre. Banded Cucumber Beetles, Leafhoppers, Southern Armyworms — Apply  $\frac{3}{4}$ -1 pt. per acre. Do not apply within 35 days of harvest.

**RADISHES, PARSNIPS, AND TURNIPS:** Aphids, Flea Beetles, Dipterous Leaf Miners — Apply  $\frac{1}{2}$ -1 pt. per acre. Do not apply within 10 days of harvest.

**SPINACH AND BEETS:** Aphids, Dipterous Leaf Miners — Apply  $\frac{1}{2}$ -1 pt. per acre. Do not apply to spinach within 10 days, or to beets within 14 days of harvest.

**SQUASH:** (Summer and Winter): See Melons and Squash Section.

**SWEET CORN:** Corn Earworms — Apply 1-1  $\frac{1}{4}$  qts. per acre when silks first appear. Two or three repeat applications at 2-3 day intervals will usually be necessary. Corn may be picked immediately following last application. Corn forage may be fed to dairy and beef cattle and sheep. Refer also to Corn under Field and Forage Foliar Insects and Field and Forage Soil Insects.

**TOMATOES:** Aphids, Dipterous Leaf Miners — Apply  $\frac{1}{2}$  pt. per acre. To control leaf miners weekly applications are usually required. Banded Cucumber Beetles, Fall Armyworms, Southern Armyworms — Apply  $\frac{3}{4}$ -1 pt. per acre. Vinegar Flies (*Drosophila* spp.) — Apply  $\frac{1}{2}$ -1  $\frac{1}{2}$  pts. per acre. Weekly applications are usually required. Do not apply within 1 day of harvest.

**WATERCRESS:** (Hawaii only): Cyclamen Mites — Mix 1 pt. per 100 gals. of water and apply to one acre as a thorough cover spray. Spray should be directed into the crowns and growing tips of plants. If infestation is heavy, make a second application no later than 10 days after the first application. Repeat applications as necessary. Do not apply within 5 days of harvest.

**VEGETABLE SOIL INSECTS:** Unless otherwise stated, soil applications of Diazinon AG-500 should always be applied to

vegetable crops as a spray in a minimum of 5 gals. of water per acre for ground applications.

**Cutworms (Surface and Subterranean)**

Broccoli	Celery	Lettuce	Peppers	Sweet Corn
Brussels Sprouts	Collards	Lima Beans	Potatoes	Swiss Chard
Cabbage	Cucumbers	Muskmelons	Snap Beans	Tomatoes
Cantaloupes	Endive (escarole)	Parsley	Spinach	Watermelons
Cauliflower	Kale	Peas	Summer Squash	Winter Squash

Broadcast 2-4 qts. per acre just prior to planting. Work into the soil immediately. 2-3 inches for surface cutworms. 3-6 inches for subterranean cutworms.

**Garden Symphylans (Centipedes)**

Cabbage	Lettuce	Radishes	Tomatoes
Carrots	Peas	Red Beets	Turnips
Corn	Pole Beans	Snap Beans	

Broadcast 10 qts. per acre just prior to planting. Work into soil 4-8 inches immediately. This preplant treatment will also control other soil insects such as cutworms (surface and subterranean), mole crickets, root maggots, and wireworms.

**Mole Crickets**

Broccoli	Cauliflower	Kale	Peppers	Tomatoes
Brussels Sprouts	Collards	Lettuce	Radishes	Turnips
Cabbage	Endive (escarole)	Mustard		

Broadcast 1 qt. per acre when insects are present. Make application to plant beds or field 1-2 days prior to sowing of seed or transplanting and work into soil 1-2 inches immediately.

**ONION MAGGOTS:** Onions Furrow Application — Apply 1 qt. per acre in sufficient water to drench the seed furrow at planting time. Broadcast Application — Broadcast 2-4 qts. per acre just prior to planting. Work into soil 3-4 inches immediately.

**ROOT MAGGOTS:** Broccoli, Brussels Sprouts, Cabbage, and Cauliflower. Broadcast Application — Broadcast 2-3 qts. per acre and immediately work into the soil 3-4 inches, before seeding, either in the seedbed or in the field, or before transplanting. Transplant Water (Dranch) Application — Mix  $\frac{1}{4}$ - $\frac{1}{2}$  pt. in 50 gals. of transplant water, when 200-300 gals. of water are used per acre. May be applied at the rate of  $\frac{1}{2}$ -1 cupful per plant, either by hand or by tractor-mounted sprayer equipped with drop nozzles to direct spray to the base of the plant. Transplant water treatments may result in stand reduction due to plant water treatments may result in stand reduction due to plant stress at time of transplanting. Radishes — Mix 1 qt. in 50 gals. of water. Apply 80-100 gals. per acre (1-1 $\frac{1}{2}$  gals. per 1,000 linear feet of row) in the seed furrow at planting time.

**Wireworms:**

Broccoli	Celery	Lima Beans	Potatoes	Sweet Potatoes
Brussels Sprouts	Collards	Muskmelons	Spinach	Swiss Chard
Cabbage	Cucumbers	Onions	Snap Beans	Tomatoes
Cantaloupes	Endive (escarole)	Parsley	Summer Squash	Watermelons
Carrots	Kale	Peas	Sweet Corn	Winter Squash
Cauliflower	Lettuce	Peppers		

Broadcast 3-4 qts. per acre prior to planting, and work into soil 4-8 inches immediately.

**POTATOES:** Wireworms — Broadcast 3-6 qts. per acre prior to planting. Immediately disk or harrow into soil 4-8 inches. Southern Potato Wireworms (Southeastern U.S.) — For use to control southern potato wireworms in potatoes grown on mineral soils in the southeast, apply 2-4 qts. per acre as a soil treatment prior to planting, and immediately mix thoroughly by disking, or other

suitable means into the top 3-6 inches of soil, depending on location of wireworms.

**FIELD AND FORAGE FOLIAR INSECTS:** Unless otherwise stated, foliar application of Diazinon AG-500 should always be applied to field and forage crops as a spray in a minimum of 2 gals. of water per acre for aerial applications and a minimum of 10 gals. of water per acre for ground applications.

**ALFALFA AND CLOVER:** Spotted Alfalfa Aphids, Yellow Clover Aphids, Pea Aphids, Leafhoppers, Plant Bug Nymphs, Mites — Apply  $\frac{3}{4}$ -1 pt. per acre. Grasshoppers — Apply 1 pt. per acre. Following the above applications, dairy and beef cattle and sheep (1) may be grazed immediately following applications, (2) may be fed green alfalfa or clover immediately following cutting, and (3) may be fed hay provided alfalfa or clover is not cut for hay for 7 days following treatment. Alfalfa Weevil Larvae — For control in the spring, apply 2-3 pts. per acre when feeding damage to growing tips becomes evident. Repeat application, if necessary. If damage is already extensive, cut the hay and make application to the stubble. Do not graze dairy and beef animals or sheep for 2 days. Do not cut for hay for 10 days following treatment. Do not spray livestock directly with either air or ground equipment. Do not treat during bloom to avoid injury to pollinating insects.

**CLOVER:** Striped Ground Crickets — Broadcast 1-2 pts. per acre following seeding in the fall but prior to clover emergence.

**CORN:** Use a minimum of 1 gal. of water for aerial applications and 5 gals. of water for ground applications. Corn Rootworm Adults — Apply  $\frac{1}{2}$ -1 pt. per acre. Corn Leaf Aphids — Apply 1-2 pts. per acre. Complete coverage of the upper portions of the plants is essential. Repeat applications as necessary. Mites — Apply 1 pt. per acre when infestations first appear. Repeat applications as necessary. Grasshoppers — Apply 1 pt. per acre. Sap Beetles — Apply 2-2 $\frac{1}{2}$  pts. per acre. Add 1-2 gals. of soluble mineral oil per acre to the spray mixture. Consult State Agricultural Experiment Stations or State Extension Service Specialists for proper timing of sprays. Corn may be picked immediately following last application. Corn forage may be fed to dairy and beef cattle and sheep.

**COTTON:** Spider Mites, Aphids, Leafhoppers, Lygus Bugs, Cotton Leafworms, Cotton Leaf Perforators — Apply 1-2 pts. in 5-25 gals. of water per acre. Repeat as infestation warrants. Do not apply within 14 days of harvest. Do not graze treated cotton plants, or feed gin waste to livestock.

**HOPS:** Aphids, Mites — Apply 1 qt. per acre. Do not apply within 14 days of harvest.

**SORGHUM:** Use a minimum of 1 gal. of water for aerial applications and 5 gals. of water for ground applications. Sorghum Midges — Apply  $\frac{1}{2}$ -1 pt. per acre when 90% of heads have emerged from the boot. Repeat application within 4 days. Mites — Apply 1 pt. per acre when infestation first appears and repeat applications as necessary. Greenbug — Apply at the rates indicated below when infestation first appears and repeat as necessary. Texas and Oklahoma — Apply  $\frac{1}{2}$ -1 pt. per acre. All Other Areas — Apply 1 pt. per acre. Corn may be fed to livestock immediately following treatment. Do not apply within 7 days of harvesting for grain.

**SUGAR BEETS:** Leafhoppers, Dipterous Leaf Miners, Aphids — Apply  $\frac{3}{4}$ -1 pt. per acre. Grasshoppers — Apply 1 pt. per acre.

**NOTE:** Tops may be fed to beef and dairy animals

**SUGARCANE:** Aphids — Apply  $\frac{1}{2}$ -1 pt. per acre. Allow 1 day between last application and harvest. Bagasse and forage may be fed to livestock.

**TOBACCO:** Aphids, Flea Beetles — Apply  $\frac{1}{2}$ - $\frac{3}{4}$  pt. per acre. Do not apply within 3 days of harvest. Grasshoppers — Apply 1 pt. per acre. Do not apply within 14 days of harvest.

**FIELD AND FORAGE SOIL INSECTS:** Unless otherwise stated, soil applications of Diazinon AG-500 should always be applied to field and forage crops as a spray in a minimum of 5 gals. of water per acre for ground applications.

**ALFALFA AND CLOVER:** Cutworms (Surface and Subterranean) — Broadcast 2-4 quarts per acre just prior to planting. Work into the soil immediately 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.

**CORN: Corn Rootworm Larvae: Band Application at Planting Time**—Apply 1-2 qts. per acre. Make application in the seed furrow or apply 2½-5 ozs. per 1,000 linear feet of corn row in a 4-7 inch band directly behind the planter shoe. For band treatment refer to the row spacing chart for amounts recommended per acre.

**SUGGESTED RATES ACCORDING TO ROW SPACING  
FOR CORN ROOTWORM LARVAE CONTROL**

Row Spacing	Linear feet of Corn row/ acre	Rate per acre Planting time application	Rate per acre Post emergence basal treatment
48"	10,890	28-56 oz.	14-28 oz.
42"	12,455	31-62 oz.	15.5-31 oz.
40"	13,068	32-64 oz. (1-2 qts)	16-32 oz. (½-1 qt.)
38"	13,939	35-70 oz.	17.5-35 oz.
36"	14,250	36-72 oz.	18-36 oz.
30"	17,424	44-88 oz.	22-44 oz.
24"	21,780	55-110 oz.	27.5-55 oz.
20"	26,136	64-128 oz. (2-4 qts.)	32-64 oz. (1-2 qts.)
15"	34,848	88-176 oz.	44-88 oz.

**NOTE:** For row spacings not listed, calculate the appropriate dosage based on the 40-inch row figure.

**Postemergence Basal Treatment:** Apply 1¼-2½ oz. per 1,000 linear feet of corn row in sufficient water to thoroughly wet base of corn plant and a narrow band of soil next to the plant. Refer to the row spacing chart for amounts recommended per acre. Cover treated band with 2-3 inches of soil using a disk hiller or cultivator immediately after spraying. Application should be made at the first sign of corn rootworm larvae, but not later than June 24 in the Middle Corn Belt, or July 1 in the Northern Corn Belt.

**Seed Corn Maggots:** Broadcast 2-4 qts. per acre just prior to planting. Work into soil 2 inches immediately.

**Cutworms (Surface and Subterranean):** Broadcast 2-4 qts. per acre. For surface cutworms apply just prior to planting or when larvae first appear and work into soil 1-2 inches immediately. Do not apply prior to planting or when larvae first appear and work into soil 1-2 inches immediately. Do not apply later than layby. For subterranean cutworms apply just prior to planting and work into soil 3-6 inches immediately.

**Wireworms:** Apply 3-4 qts. per acre prior to planting and work into the soil 4-8 inches immediately.

Corn may be picked immediately following last application. Corn forage may be fed to dairy and beef cattle and sheep.

**COWPEAS:** Cutworms (Surface and Subterranean)—Broadcast 2-4 qts. per acre, just prior to planting. Work into the soil immediately. 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.

**LESPEDEZA:** Cutworms (Surface and Subterranean)—Broadcast 2-4 qts. per acre just prior to planting. Work into the soil immediately 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.

**PEANUTS:** Cutworms—Apply 2 qts. per acre in a 12-inch band over the row. Thorough coverage of the foliage is essential. Begin application when small larvae appear. Two or three additional applications at three week intervals may be necessary. Do not apply within 21 days of peanut harvest. Livestock (1) may be fed peanut hulls, (2) may be fed peanut forage 7 days following treatment, and (3) may be fed peanut hay 21 days following treatment.

**SORGHUM:** Cutworms (Surface and Subterranean)—Broadcast 2-4 qts. per acre just prior to planting. Work into the soil immediately. 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.

**SOYBEANS:** Cutworms (Surface and Subterranean) — Broadcast 2-4 qts. per acre just prior to planting. Work into the soil immediately, 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.

**SUGAR BEETS:** Wireworms — Broadcast 3-4 qts. per acre just prior to planting, and work into soil 4-8 inches immediately. Tops may be fed to beef and dairy animals.

**SUGARCANE:** Wireworms — Apply 1 gal. per acre in a 12-inch band centered over the furrow. Make application directly to seed pieces in open furrow at covering time.

**TOBACCO:** Cutworms — Broadcast 2-3 qts. per acre before transplanting and work into the soil 2-4 inches immediately. Green June Beetle Larvae — Mix ¼ pt. in 50 gals. of water and apply as a drench (100 gals. per 100 sq. yds.) to unrooted areas of plant beds with sprinkling can. Mole Crickets — Broadcast 1 qt. per acre, when insects are present. Make applications to beds or fields 1-2 days prior to sowing of seed or transplanting, and work into soil 1-2 inches immediately. Seed-Corn Maggots — Broadcast 3 pts. per acre, 3-4 weeks before transplanting. Work into soil 2 inches immediately. Wireworms — Broadcast 2-3 qts. per acre, 3-4 weeks before transplanting. Work into soil 8-9 inches immediately.

**RANGE, PASTURE, AND GRASSLAND INSECTS:** Unless otherwise stated, Diazinon AG-500 should always be applied as a spray in a minimum of 1 gal. of water per acre for aerial applications and a minimum of 5 gals. of water per acre for ground applications.

**BERMUDAGRASS AND FORAGE GRASSES (Other than Range and Pasture Grasses):** Thrips, Whiteflies, Grasshoppers — Apply 1 pt. per acre. Dairy and beef cattle, and sheep (1) may be grazed immediately following application, (2) may be fed green forage immediately following cutting, and (3) forage grasses may be cut for hay 7 days following treatment. Do not repeat application more often than once every 30 days.

**RANGELAND, PASTURE, DITCH BANKS, ROADSIDES, WASTELAND, NONCROP AREAS, AND BARRIER STRIPS:** Grasshoppers — Apply ¾-1 pt. per acre in water or oil (minimum of 1 gal. of oil per acre) when insects first appear, preferably in the nymphal state. Thorough coverage of the foliage is essential. Dairy and beef cattle and sheep (1) may be grazed immediately following application, (2) may be fed green forage immediately following cutting, and (3) may be fed hay provided grass is not cut for hay for 21 days if the spray is a water solution, or for 30 days if the spray is an oil solution. Do not spray livestock directly with either air or ground equipment. Do not repeat application for 30 days.

**ORNAMENTAL INSECT CONTROL:** To control certain insects on Arborvitae, Azalea, Birch, Boxwood, Camellia, Carnation, Chrysanthemum, Douglas Fir, Elm, Gladioli, Hawthorn, Holly, Juniper, Lilac, Locust, Maple, Oak, Pine, Plum, Poplar, Rhododendron, Rose Spruce, and Willow, and apply the recommended rates indicated below.

Insects	Rate per 3 gals. water	Rate per 100 gals. water
Aphids, Bagworms, Carnation Bud Mites, Carnation Shoot Mites, Clover Mites, Cyclamen Mites, Dipterous Leaf Miners, European Pine Shoot Moths, European Red Mites, Flea Beetles, Holly Bud Moths, Leafhoppers, Obscure Root Weevils, Omnivorous Leaf Tiers, Privet Mites, Scale Crawlers (Cottony-Cushion, Lecanium, Pine Needle, San Jose Soft Scale), Thrips, Two-Spotted Mites, Web-worms, Whiteflies	½ fl. oz.*	1 pt.*
Apple-and-Thorn Skeletonizers, Cotoneaster Webworms, Fall Webworms, Hemlock Chermes, Oak Looppers, Obliquebanded Leaf Rollers, Pear Slugs, Tent Caterpillars	1 ½ fl. oz.	3 pts.

\*1 fl. oz. = 2 tablespoons. 16 fl. oz. = 1 pint

Do not use on certain Ferns, Poinsettia, Hibiscus, Papaya, Pilea and Gardenia, since injury to the plants may occur.

Mimosa Webworms — Mix ½ fl. oz. in 3 gals. of water (or 1 pt. in 100 gals. of water) and apply as a thorough foliar spray when adults first appear. Make a second and third application at 4-5 week intervals.

**LAWN INSECT CONTROL:** To control insects listed below, apply recommended rates. For control of Ants, Brown Dog Ticks, Clover Mites, Crickets, Earwigs, Fleas, Millipedes, Sowbugs, and Collembola (Springtails), 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. Boxelder Bugs — Spray bugs outside the home with 1¼-2½ fl. oz. (2½-5 tablespoons) in 1 gal. water. At the same time thoroughly spray around foundation, windows, doors, tree trunks, and into cracks and other places where the insects hide.

**BILLBUGS AND WHITE GRUBS, SUCH AS JAPANESE BEETLE LARVA, EUROPEAN CHAFER AND SOUTHERN CHAFER —** Apply 4 fl. oz. per 1,000 sq. ft. of lawn. Water grass thoroughly after application. For grub control make application any time between late July and early October. For billbug control apply when activity is first observed or when chewed or brown grass is present, indicating damage from this insect.

**HYPERODUS WEEVIL (New York only) —** Apply 3 fl. oz. per 1,000 sq. ft. of grass. Water grass thoroughly after application. Treat problem areas in mid-April and again in mid-May.

Insects	Rate/1,000 sq. ft.		Remarks
	Diazinon AG-500	Water	
Lawn Chinch Bugs	2-3 fl. oz. or 3-5 fl. oz.	25 gals.*	Use higher rate for longer residual control and in lawns of dense growth, such as St. Augustine lawns.
Ants, Armyworms, Clover Mites, Collembola (Springtails), Crickets, Cutworms, Digger Wasps, Earwigs, Fruit Flies, Lawn Billbugs, Sod Webworms (Lawn Moths), Sowbugs	4 fl. oz.	3 gals.	Spot spray ant hills & wasp ground nest opening. For lawn billbugs, irrigate the lawn thoroughly immediately after treatment. For fruit flies, mow grass & water well before treatment but delay application until grass is dry. Do not water again until necessary.
Brown Dog Ticks, Bermuda Mites, Chiggers, Fleas, Leaf-hoppers	1¼ fl. oz.	3 gals.	Do not apply to animals. For brown ticks spray grass and under shrubbery, particularly near house.
Millipedes	8 fl. oz.	3 gals.	
Rhodes-grass Scales	5 fl. oz.	25 gals.*	Apply when crawlers first emerge.

\* Alternately make application in 3 gals. of water per 1,000 sq. ft. and thoroughly water immediately following application.



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**WARRANTY AND LIMITATION OF DAMAGES**

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