

PM13

5905-474

517483

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

JAN 27 1997

Dear Ms. Oldham:

Subject: Amendment- Revise per Agency letter of November 22, 1996
Diazinon 7E Insecticide
EPA Registration Number 5905-474
Your submission dated December 5, 1996

The amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(7)(a), is acceptable provided that you:

1. Submit and/or cite all data or other material required for registration/reregistration of your product under FIFRA section 3(c)(5) or FIFRA section 4 when the Agency requires all registrants of similar products to submit such data.
2. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling
 - a) In the seventh sentence of the **Environmental Hazards**, revise "if waterfowl, i.e. ducks or geese, can be" to read "if waterfowl (ducks or geese), can be". Also in this same sentence, revise "1/4 inch water" to read "1/4 inch of water".
 - b) Revise the notice on page 5 to read "FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND ALL PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR INSECT CONTROL, CROP INJURY, OR ILLEGAL RESIDUES."
 - c) Under the heading Fruit and Nut Crops, why do you state that the usual dilute volume is 300-600 gallons of water per acre rather than the 300-400 gallons of water per acre that the Agency thinks is the usual rate? Increasing the water gallonage, and thus its associated pesticide, will cause the

recommended rates, number of applications, and the per acre application and season application maximums to not coincide. The Agency recommends revising your label to indicate ".... with conventional ground equipment at a rate of 300-400 gallons of water per acre." Also, in the sentence "If the Rate calls for 1/2 pt of Diazinon 7E..." revise "this amounts to 3-6 pts. of product per acre when applied at the usual dilute ground spray volumes of 300-600 gallons of water per acre." to read "this amounts to 1 1/2 - 2 pts. of product per acre when applied at the usual dilute ground spray volumes of 300-400 gallons of water per acre."

- d) For the crop Almonds, revise "Do not apply more than 6 pts. of diazinon..." to read "Do not apply more than 3 1/2 pts. of diazinon..."
- e) For the crop Cherries, Ciba's label only recommends 3 applications rather than 3-4 applications. Also, delete the first item of the NOTES and renumber the remaining items accordingly.
- f) Revise the directions for use on Cranberries to read as follows:

CRANBERRIES: Blackheaded Fireworms (Rhopobata naevana) - 1 1/4 qts. in a minimum of 15 gals. of water per acre for ground application and up to 400 gals. of water per acre for chemigation. Apply to larval stage. Pheromone trap captures and sweep monitoring may be used to optimize treatment timing. Repeat application after 14 days, if necessary. A maximum of 6 applications per season is permitted.

Cranberry Fruitworms - 1 1/4 - 1 3/4 qts. in a minimum of 15 gals. of water per acre for ground application and up to 400 gals. of water per acre for chemigation. Cranberry growth stage and/or berry inspection for eggs may be used to optimize treatment timing; consult your local extension agent or pest management adviser. Repeat application every 14 days, as needed. A maximum of 4 applications per season is permitted for the 1 3/4 qt. rate. A maximum of 6 applications per season is permitted for the 1 1/4 qt. rate.

Notes: (1) Do not apply more than 7 1/4 qts. of product per acre per season. (2) To avoid illegal residues, allow a minimum of 7 days between the last application and harvest. (3) This product may be applied to cranberries through sprinkler irrigation. Refer to the **Chemigation** section for specific chemigation directions for use.

- g) For the crop Strawberries, add the following Notes (you may choose to delete the PHI information from each Timing/Special Directions since it will appear in the Notes):

Notes: (1) Do not apply more than 1/2 qt. of product per acre per application and no more than 2 1/2 qts. of product per acre per season. (2) To avoid illegal residues, allow a minimum of 5 days between the last application and harvest.

- h) Since you split Ciba's combined directions for pest control on Walnuts there is a potential for overapplication, i.e., your label limits the user to 3 applications for each of the two subgroups of pests rather than for all the pests as a single group. Strictly followed, your label could allow up to 6 3/4 qts. per acre per season rather than the residue data supported 5 1/2 qts. per acre per season for foliar applications. To correct this, you may leave the directions as they stand but add a NOTE which specifies "NOTE: For all of the above uses, do not apply more than a total of 5 1/2 qts. of product per acre per season."
- i) Throughout the Timing/Special Directions for Vegetable Crops with directions for control of Mole Crickets, you may shorten the entry to read "One to two days before planting, broadcast and immediately incorporate into the top 1-2 inches of soil."
- j) Throughout the Timing/Special Directions for Vegetable Crops with directions for control of Root Maggots, you may shorten the entry to read "One to two days before planting, broadcast and immediately incorporate into the top 3-4 inches of soil."
- k) In the Field Crops section, in the directions for use on Hops, delete the NOTE about feeding tops to beef and dairy animals.
- l) In the Field Crops section, in the directions for use on Sugar Beets, revise the pest name "Beef Leafhoppers" to "Beet Leafhoppers" and revise the NOTE to read- NOTE: Sugar beet tops may be fed to beef and dairy animals.
- m) In the list of pests under the heading INSECT CONTROL ON ORNAMENTALS, capitalize the "J" of "Juniper Webworms".
- n) In the sixth sentence of the Lawn Pest Control Precautions, revise "if waterfowl, i.e. ducks or geese, can be" to read "if waterfowl (ducks or geese), can be".

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3) Submit three (3) copies of your final printed labeling before you release the product for shipment.

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

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

Sincerely,

George T. LaRocca
Product Manager 13
Insecticide/Rodenticide Branch
Registration Division (7505C)

5/29

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® 7E
INSECTICIDE

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

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

ACTIVE INGREDIENT:

Diazinon: O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl)	
phosphorothioate.....	77.80%
INERT INGREDIENTS.....	22.20%
TOTAL.....	100.00%

*Contains xylene range aromatic solvent

Diazinon 7E contains 7 lbs. diazinon per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Additional Precautionary Statements Inside Booklet

EPA REG. NO.: 5905-474
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-LA-1=DI

ACCEPTED
with COMMENTS
in EPA Letter Dated

JAN 27 1997

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
5905-474

REC'D
DEC 11 P 1:04
P/DPD1

MANUFACTURED BY
HELENA CHEMICAL COMPANY
MEMPHIS, TN 38137

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

Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye injury. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or spray mist. Avoid contamination of food and feed. Food utensils such as tablespoons and measuring cups should not be used for food purposes after use in measuring pesticides. Keep out of reach of domestic animals. Do not use on humans, household pets or livestock. Do not contaminate ornamental fish ponds.

PERSONAL PROTECTIVE EQUIPMENT

Some materials 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:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, or viton
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets with 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 or Poison Control Center immediately. DO NOT INDUCE VOMITING. Vomiting may cause aspiration pneumonia.

Do not give anything by mouth if person is unconscious or convulsing.

If Inhaled: Remove victim to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. Get medical attention.

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

If in Eyes: Rinse eyes with plenty of water. Call a physician immediately if irritation persists.

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

ENVIRONMENTAL HAZARDS

This product is highly toxic to birds, fish and other wildlife. Birds, especially waterfowl, feeding or drinking on treated areas may be killed. Because of the migratory habits of 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, especially waterfowl. Avoid overlapping of sprays. If waterfowl, i.e. ducks or geese can be expected in the treated area after treatment (except spot treatments), apply at least 1/4 inch water immediately after spraying this product, 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.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, 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 enter or allow worker entry into treated areas during the restricted entry interval (REI). Exception: If the product is soil-injected or soil-incorporated, 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

Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

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

~~Do not use water from irrigated or flooded cranberry beds for drinking purposes or to irrigate crops other than those appearing on EPA approved diazinon labels.~~

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 7E 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 on food crops grown in greenhouses. 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.

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

Work 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 7E**, 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.

Note: The California Department of Agriculture has set 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.

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 7E 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.

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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

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1. Determine the acreage to be treated by the sprinkler system.
2. Measure the appropriate amount of **Diazinon 7E** 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 7E** to the chemigation system supply tank and dilute with water if needed. Proper agitation is needed if **Diazinon 7E** 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.

FRUIT AND NUT CROPS

REI - 24 hours

Diazinon 7E may be applied using ground or aerial application equipment as specified in the following Table. This Table indicates the *minimum* amount of water that can be used for various methods of application. The rate of **Diazinon 7E** for aerial spray or concentrated spray applied to fruit trees by ground equipment is based on a dilute full cover spray applied with conventional ground equipment at a rate of 300-600 gals. of water per acre. The specific amount of product to be used appears under separate directions for use for each crop. If the Rate calls for 1/2 pt. of **Diazinon 7E** in 100 gals. of water, this amounts to 3-6 pts. of product per acre when applied at the usual dilute ground spray volumes of 300-600 gals. of water per acre. In no case should the amount of product used per acre exceed the maximum amount per acre per application that is specified in the Timing/Special Directions for individual crops.

Crop	Aerial application Minimum Gals./Acre	Ground Application Minimum Gals./Acre	
		Dilute	Concentrate
Almonds*	20	100	20
Apricots	20	100	20
Blackberries**	20	100	20

Boysenberries**	20	100	20
Cherries	20	100	20
Cranberries	20	15	-
Dewberries**	20	100	20
Grapes	20	100	20
Loganberries**	20	100	20
Nectarines	20	100	20
Plums	20	100	20
Prunes	20	100	20
Raspberries**	20	100	20
Strawberries	20	100	20
Walnuts*	20	100	20

*CA only.

**CA, OR, or WA only.

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

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

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

** = Dormant spray only.

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

ALMONDS (CA only): San Jose Scale, Parlatoria Scale - $\frac{1}{2}$ - $\frac{3}{4}$ pts. + 2-3 gallons dormant oil or 1-1 $\frac{1}{2}$ 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.

APRICOTS: Aphids, Brown Mites (Clover Mites), Two-spotted Spider Mites, Olive Scale Crawlers, San Jose Scale Crawlers - $\frac{1}{2}$ pt. in 100 gallons of water. Apply as infestations occur. Repeat application after 14 days if necessary. **Olive Scale Crawlers** - $\frac{1}{4}$ pt. + 1 $\frac{1}{2}$ gallons of light medium horticultural oil per 100 gals. of water. Apply when scale crawlers are present. **Apricot Mealybugs** - $\frac{1}{2}$ pt. per 100 gallons of water. Apply as a cover spray from petal fall to June. Allow 14 days between applications.

Notes: (1) Do not apply more than 2 $\frac{1}{2}$ pts. of product per acre per application and no more than 7 $\frac{1}{4}$ pts. of product per acre per season. (2) To avoid illegal residues allow a minimum of 21 days between the last application and harvest.

CANEBERRIES (CA, OR and WA only) (Blackberries, Boysenberries, Dewberries, Loganberries, Raspberries): Leafhoppers, Thrips, Aphids, Two-spotted Spider Mites, Raspberry Sawflies, Raspberry Fruitworms - $\frac{1}{2}$ 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** - $\frac{1}{2}$ -1 $\frac{1}{4}$ 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) - 1 $\frac{1}{4}$ 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 - $\frac{1}{2}$ pt. in 100 gallons of water. Apply in cover sprays as infestations occur beginning at petal fall. Repeat application after 7 days if necessary. **Leafhoppers** - $\frac{1}{2}$ pt. in 100 gallons of water. Make 3-4 applications beginning at petal fall and continuing through the growing season as infestations occur. Allow 7 days between applications. **Cherry Fruitflies** - $\frac{1}{4}$ - $\frac{1}{2}$ pt. in 100 gallons of water. Make 3-4 applications beginning when adult flies begin to emerge and repeating at 10 day intervals. **Black Cherry Aphids** - $\frac{1}{2}$ pt. in 100 gallons of water. Apply as a cover spray when aphids appear. Repeat application after 10 days if necessary. **San Jose Scale Crawlers** - $\frac{1}{2}$ pt. in 100 gallons of water. Apply during the pre-pink stage or when crawlers first appear. **Cherry Rust Mites** - $\frac{1}{4}$ - $\frac{1}{2}$ pt. in 100 gallons of water. Apply to trees as a single supplemental spray after harvest.

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Notes: (1) Do not make more than 3 applications per season. (2) Do not apply more than 2½ pts. of product per acre per application and no more than 7¼ pts. of product per acre per season. (3) Allow a minimum of 21 days between the last application and harvest.

CRANBERRIES: Blackheaded Fireworms (*Rhopobota naevana*) - 1¼ qts. in a minimum of 15 gals. of water per acre for ground application and up to 400 gals. of water per acre for chemigation. Apply when pest appears. Repeat application after 14 days if necessary. A maximum of 6 application per season is permitted. Do not apply within 7 days of harvest or illegal residues may occur. **Cranberry Fruitworms** - 1¼ qts. in a minimum of 15 gals. of water per acre for ground application and up to 400 gals. of water per acre for chemigation. 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 Chemigation section for specific chemigation directions for use.

GRAPES: Pacific Spider Mites, Leafhoppers, Grape Berry Moths, Grape Leafrollers, Omnivorous Leafrollers, Aphids, Spider Mites - ½-1¼ pts. per acre in a minimum of 100 gals. of water. Apply as pest occurs as a thorough cover spray. Repeat application after 7 days if necessary. **Drosophila spp.** - 3½ fl. oz. per acre in a minimum of 100 gallons of water (300 gal. of water maximum). Apply as pest occurs as a thorough cover spray. Repeat application after 7 days if necessary.

Notes: (1) Do not apply more than 1¼ pts. of product per acre per application and no more than 6 pts. per acre per season. (2) To avoid illegal residues, allow 28 days between the last application and harvest.

NECTARINES: Oriental Fruitmoths - ½ 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. **Aphids, Brown Mites (Clover Mites), Two-spotted Spider Mites, Olive Scale Crawlers, San Jose Scale Crawlers, Peach Twig Borers** - ½ pt. in 100 gallons of water. Apply as infestations occur. Repeat application after 14 days if necessary.

Notes: (1) Do not apply more than 2½ pts. of product per acre per application and no more than 7¼ pts. per acre per season. (2) Allow a minimum of 21 days between the last application and harvest.

PEACHES: Aphids, Brown Mites (Clover Mites), Two-spotted Spider Mites, Olive Scale Crawlers, San Jose Scale Crawlers - ½ pt. in 100 gallons of water. Apply as infestations occur. Repeat application after 14 days if necessary. **Oriental Fruitmoths** - ½ 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. **Peach Twig Borers** - ½ pt. in 100 gals. of water. Apply as insects occur in May and June. Allow 7 days between application. **Leafhoppers** - ½ 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. **White Peach Scale** - 1-1¼ 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.

Notes: (1) Do not apply more than 2½ pts. of product per acre per application and no more than 7¼ pts. of product per acre per season. (2) Allow a minimum of 21 days between the last application and harvest.

PLUMS: Brown Mites (Clover Mites), European Red Mites - ½ pt. in 100 gallons of water. Apply as needed every 7 days. **Leafcurl Plum Aphids, Mealy Plum Aphids, Thistle Aphids** - ¼-½ pt. in 100 gallons of water. Apply as needed every 7 days.

Notes: (1) Do not apply more than 2½ pts. of product per acre per application and no more than 7¼ pts. of product per acre per season. (2) Allow a minimum of 21 days between the last application and harvest.

PRUNES: Brown Mites (Clover Mites), European Red Mites - ½ pt. in 100 gallons of water. Apply as needed every 7 days. **Leafcurl Plum Aphids, Mealy Plum Aphids, Thistle Aphids** - ¼-½ pt. in 100 gallons of water. Apply as needed every 7 days.

Notes: (1) Do not apply more than 2½ pts. of product per acre per application and no more than 7¼ pts. of product per acre per season. (2) Allow a minimum of 21 days between the last application and harvest.

STRAWBERRIES: Aphids, Twospotted Spider Mites - ½ 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** - ½ 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 make more than 3 foliar applications per season. Do not apply within 5 days of harvest or illegal residues may occur. Application may be made to plants after harvest. **Mole Crickets** - ½ 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. **Strawberry Leafrollers** - ½ 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 - ½ 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** - 1¼ 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

REI - 24 hours

For foliar or soil applications, **Diazinon 7E** should always be applied as a spray in sufficient water to assure thorough coverage of the foliage or soil. **Diazinon 7E** may be applied using ground or aerial

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application equipment as specified in the following table. This table indicates the minimum amount of water that can be used for the various methods of application. The specific amount of product to be used appears under the separate directions for use for each crop.

Crop	Ground Application		Aerial Application Minimum Gals./Acre
	Minimum Gals./Acre	OR Minimum Gals./1,000 Sq.Ft.	
Beans, Lima, Snap, and Pole (succu- lend only)	10	2	5
Beets, Red (Table)	10	2	5
Broccoli	10	2	5
Brussels Sprouts	10	2	5
Cabbage	10	2	5
Cantaloupes	5	1	5
Carrots	10	2	5
Casabas	5	1	5
Cauliflower	10	2	5
Chinese Broccoli	10	2	5
Chinese Cabbage	10	2	5
Chinese Mustard	10	2	5
Chinese Radish (FL, CA only)	10	2	5
Collards	10	2	5
Crenshaws	5	1	5
Cucumbers	5	1	5
Endive (Escarole)	10	2	5
Ginseng	10	2	5
Honeydew Melons	5	1	5
Kale	10	2	5
Lettuce, Head	10	2	5
Lettuce, Leaf	10	2	5
Muskmelons	5	1	5
Mustard	10	2	5
Onions, (Bulb and Green)	10	2	5
Parsley	10	2	5
Parsnips	10	2	5
Peas (succulent only)	10	2	5
Peppers	10	2	5
Persian Melons	5	1	5
Potatoes (Irish)*	10	2	5
Radishes only)	10	2	5
Spinach	10	2	5
Squash, Summer	5	1	5

Crop	Ground Application		Aerial Application Minimum Gals./Acre
	Minimum Gals./Acre	OR Minimum Gals./1,000 Sq.Ft.	
Squash, Winter	5	1	5
Sweet Corn	20	4	5
Sweet Potatoes	10	2	5
Swiss Chard	10	2	5
Tomatoes	10	2	5
Turnips	10	2	5
Watermelons	5	1	5

*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. Do not apply to food crops in greenhouses.

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

Crop	PHI
Beans, (Lima, Snap, Pole)	7
Beets, Red (Table)	14
Broccoli	7
Brussels Sprouts	7
Cabbage	21
Cantaloupes	3
Carrots	14
Casabas	3
Cauliflower	7
Chinese Broccoli	10
Chinese Cabbage	10
Chinese Mustard	10
Chinese Radish	10
Collards	10
Crenshaws	3
Cucumbers	7
Endive (Escarole)	14
Ginseng	30
Honeydew Melons	3
Kale	10
Lettuce	14
Muskmelons	3
Mustard	10
Onions (Green and Bulb)	14
Parsnips	14
Peas	7
Peppers	5

Crop	PHI
Persian Melons	3
Potatoes (Irish)	35
Radish	14
Spinach	14
Squash, Summer	7
Squash, Winter	3
Sweet Corn	7
Swiss Chard	14
Tomatoes	1
Turnip Tops	14
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) using a rotary hoe, cultivator, disk, harrow, or other suitable means. 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 (Lima, Pole, Snap -succulent only): Cutworms - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.)

Wireworms - 1¼-2½ 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** - ½-¾ 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. **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 - ½ 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 - ½ 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

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may be fed to dairy and beef cattle and sheep. Wait 4 days following treatment if forage is to be cut for hay.

Note: To protect bees, do not apply foliarly if the crop or weeds in the treatment area are in bloom.

BEETS, RED (Table): **Cutworms** - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - $\frac{1}{2}$ 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**- $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Dipterous Leafminers** - $\frac{1}{4}$ - $\frac{1}{2}$ 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** - $1\frac{1}{4}$ - $1\frac{3}{4}$ 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** - 2 $\frac{1}{2}$ -5 ozs. per 50 gals. of water. In transplant water as a drench application when 200-300 gals. of water are used per acre. Apply $\frac{1}{4}$ - $\frac{1}{2}$ cup (2 $\frac{1}{2}$ to 5 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** - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - $\frac{1}{2}$ 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** - $1\frac{3}{4}$ - $2\frac{1}{2}$ 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** - $\frac{1}{4}$ - $\frac{1}{2}$ 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.

BRUSSELS SPROUTS: **Root Maggots** - $1\frac{1}{4}$ - $1\frac{3}{4}$ 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** - 2 $\frac{1}{2}$ -5 ozs. in 50 gals. of water. In transplant water as a drench application when 200-300 gals. of water are used per acre. Apply $\frac{1}{4}$ - $\frac{1}{2}$ cup (2 $\frac{1}{2}$ to 5 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** - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - $\frac{1}{2}$ 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** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Diamondback Moths, Imported Cabbageworms** - $\frac{1}{4}$ - $\frac{1}{2}$ 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.

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CABBAGE: Root Maggots - 1¼-1¾ 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** - 2½-5 ozs. in 50 gals. of water. In transplant water as a drench application when 200-300 gals. of water are used per acre. Apply ¼-½ cup (2½ to 5 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** - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - ½ 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** - 1¾-2½ 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** - ¼-½ 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 21 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

CARROTS: Cutworms - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - ½ 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** - 1¾-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids** - ½ 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.

CAULIFLOWER: Root Maggots - 1¼-1¾ 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** - 2½-5 ozs. in 50 gals. of water. In transplant water as a drench application where 200-300 gals. of water are used per acre. Apply ¼-½ cup (2½ to 5 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** - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - ½ 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** - 1¾-2½ 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** - ¼-½ 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 5 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

CHINESE BROCCOLI: Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers - ¼-½ 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 - ¼-½ 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 organo-

phosphate-resistant leafminers.

CHINESE MUSTARD (GAI CHOY): Aphids, Diamondback Moths, Imported Cabbageworms, Dipterous Leafminers - $\frac{1}{4}$ - $\frac{1}{2}$ 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 - $\frac{1}{2}$ 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - $\frac{1}{2}$ 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Diamondback Moths, Imported Cabbageworms, Harlequin Bugs, Corn Earworms - $\frac{1}{4}$ - $\frac{1}{2}$ pt. 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Wireworms - $1\frac{1}{4}$ - $2\frac{1}{2}$ 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 - $\frac{1}{2}$ 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) Mole Crickets - $\frac{1}{2}$ 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. Aphids, Dipterous Leafminers - $\frac{1}{4}$ - $\frac{1}{2}$ 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. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

GINSENG: Leafhoppers, Aphids, Lygus Bugs, Flea Beetles, Jumping Plant Lice - $\frac{1}{2}$ pt. per acre. Spray when insects first appear. For heavy insect infestations, use $\frac{1}{2}$ 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate

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into the soil. (See Soil Incorporation Note.) **Mole Crickets** - $\frac{1}{2}$ 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** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Diamondback Moths, Imported Cabbageworms, Harlequin Bugs, Corn Earworms** - $\frac{1}{4}$ - $\frac{1}{2}$ 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.

LETTUCE: Cutworms - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - $\frac{1}{2}$ 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** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Dipterous Leafminers** - $\frac{1}{4}$ - $\frac{1}{2}$ 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. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

MELONS (CANTALOUPE, CASABAS, CRENSHAW, HONEYDEW, MUSKMELON, PERSIAN, AND HYBRIDS OF THESE) AND WATERMELONS: Cutworms - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - $1\frac{3}{4}$ - $2\frac{1}{2}$ 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** - $\frac{1}{4}$ - $\frac{3}{4}$ 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - $\frac{1}{2}$ 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** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Dipterous Leafminers, Diamondback Moths, Imported Cabbageworms** - $\frac{1}{4}$ - $\frac{1}{2}$ 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 - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and mix into the top 3-4 inches of soil. **NOTE:** Diazinon will not control organophosphate-resistant onion maggots. **Onion Thrips** - $\frac{1}{2}$ 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 14 days of harvest or illegal residues may occur. **Wireworms** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into top 4-8 inches of soil.

PARSLEY: Cutworms - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately

incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into top 4-8 inches of soil.

PARSNIPS: Aphids, Flea Beetles, Dipterous Leafminers - ¼-½ 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.

PEAS (SUCCULENT ONLY): Cutworms - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - 1¼-2½ 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 occur. Repeat application, as necessary, every 5 days. Do not make more than 3 applications per season. To avoid illegal residues, allow a minimum of 7 days between the last application and harvest. Vines and hay may be fed to dairy and beef cattle and sheep. To avoid illegal residues, wait 7 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 - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - ½ 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** - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Serpentine Leafminers** - ¼-½ 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 5 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

POTATOES: Cutworms (Surface & Subterranean) - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - 1¼-2½ qts. per acre. Broadcast before planting and immediately incorporate into the top 4-8 inches of soil. **Southern Potato Wireworms (Southeastern U.S.)** - 1¼-2½ 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. **Aphids, Flea Beetles, Colorado Potato Beetles, Dipterous Leafminers** - ¼-½ 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** - ½ 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: Do not use on commercially grown potatoes which will be hand harvested.

RADISHES: Cutworms - 1¼-2½ qts. per acre. Broadcast just before planting and immedi-

ately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - $\frac{1}{2}$ 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** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Flea Beetles, Dipterous Leafminers** - $\frac{1}{4}$ - $\frac{1}{2}$ pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 3 applications per season. Do not apply within 14 days of harvest or illegal residues may occur. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

SPINACH: Cutworms - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Dipterous Leaf-miners** - $\frac{1}{4}$ - $\frac{1}{2}$ 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. **NOTE:** Diazinon will not control organophosphate-resistant leafminers.

) **SQUASH, SUMMER: Cutworms** - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - $1\frac{3}{4}$ - $2\frac{1}{2}$ 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** - $\frac{1}{4}$ - $\frac{3}{4}$ 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** - $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - $1\frac{3}{4}$ - $2\frac{1}{2}$ 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** - $\frac{1}{4}$ - $\frac{3}{4}$ 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 $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Seed Corn Maggots** $1\frac{1}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast just before planting and immediately incorporate into the top 2 inches of soil. **Wireworms** - $1\frac{3}{4}$ - $2\frac{1}{2}$ qts. per acre. Broadcast before planting and immediately incorporate into the top 4-8 inches of soil. **Corn Earworms** - $\frac{1}{2}$ - $\frac{3}{4}$ 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 Rootworm Adults** - $\frac{1}{4}$ - $\frac{1}{2}$ pt. per acre. Apply as insects occur. Repeat application, as necessary, every 7 days. Do not make more than 5 applications per season. **Corn Leaf Aphids** - $\frac{1}{2}$ - $1\frac{1}{4}$ 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. **Grasshoppers, Spider Mites, Flea Beetles** - $\frac{1}{2}$ pt. per acre. Apply as insects occur. Repeat, as necessary, every 7 days. Do not make more than 5 applications per season. **Sap Beetles** - $1\frac{1}{4}$ - $1\frac{1}{2}$ 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.

NOTE: (1) To protect bees, do not apply foliarly to corn during the pollen shed period. (2) Allow 7 days after the last application before grazing or cutting for forage. Forage may be fed to beef and dairy cattle and sheep. (3) Corn may be picked 7 days after the last application.

SWEET POTATOES: Wireworms, Flea Beetles - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil.

SWISS CHARD: Cutworms - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Wireworms** - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Imported Cabbageworms, Diamondback Moths, Harlequin Bugs** - ¼-½ 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.

TOMATOES: Cutworms - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - ½ 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** - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Dipterous Leafminers** - ¼ 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. **Note:** Diazinon will not control organophosphate-resistant leafminers. **Banded Cucumber Beetles, Fall Armyworms, Southern Armyworms, Beet Armyworms** - 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. **Vinegar Flies (*Drosophila Spp.*)** ¼-¾ 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 - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the soil. (See Soil Incorporation Note.) **Mole Crickets** - ½ 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** - 1¼-2½ qts. per acre. Broadcast just before planting and immediately incorporate into the top 4-8 inches of soil. **Aphids, Flea Beetles, Dipterous Leafminers** - ¼-½ 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.

FIELD CROPS

REI - 24 Hours

Soil and foliar applications of Diazinon 7E 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

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made per season.

Preharvest Interval (PHI*) for Foliar Applications

Crop	PHI
Hops	14
Sugar Beets	14

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

HOPS: Aphids, Spider Mites - ½ qt. per acre. Apply as pest occur. Repeat application, as necessary, every 14 days. Do not make more than 4 applications per season. Do not apply within 14 days of harvest.

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

SUGAR BEETS: Wireworms - 1¾-2½ qts. per acre. Broadcast just before planting. Incorporate into soil 4-6 inches. Do not apply more than 2½ qts. of this product to the soil, per season. **Beef Leafhoppers, Dipterous Leafminers, Aphids** - ½ 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 14 days of harvest. **NOTE:** Diazinon will not control organophosphate-resistant leafminers. **Grasshoppers** - ½ 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.

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

GRASSLAND INSECTS

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

Grasshoppers: Apply ½ pts. per acre in water (minimum of 1 gallons of water per acre) for aerial applications or a minimum of 5 gals. of water per acre for ground application or in oil (a minimum of 1 gal. 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

REI - 12 HOURS

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, Fea Beetles, Holly Bud Moths, Leafhoppers, Obscure Root Weevils, Omnivorous Leaf-tiers, Privet Mites, Scale Crawlers (Cottoncushion, Lecanium, Pine Needle, San Jose, Soft), Thrips, Two-spotted Spider Mites, juniper Webworms, and Whiteflies - Use $\frac{1}{4}$ fl. oz.* per 3 gallons of water or $\frac{1}{2}$ pt.** per 100 gallons of water. Apple-and-Thorn Skeletonizers, Cotoneaster Webworms, Fall Webworms, Hemlock Chermes, Oak Loopers, Obliquebanded Leafrollers, Pear Dlug, and Tent Caterpillars - Use $\frac{3}{4}$ fl. oz.* per 3 gallons of water or $1\frac{1}{4}$ pts.** per 100 gallons of water.

*1 fl. oz. = 2 tablespoons

**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 $\frac{1}{4}$ fl. oz. in 3 gallons of water (or $\frac{1}{2}$ 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 migratory habits of certain waterfowl, do not apply in Nassau County, New York between November 1 and May 20. Do not exceed maximum permitted label rates, since rates above those recommended significantly increase potential hazards to birds, especially waterfowl. Avoid overlapping of sprays. If waterfowl, i.e., ducks or geese can be expected to enter the treated area after treatment (except spot treatments), water lawn with at least $\frac{1}{4}$ inch of water immediately after application, however, stop watering before puddling occurs.

To control pest listed below, apply recommended rates.

Lawn Chinch Bugs - Use $1\frac{1}{4}$ - $1\frac{3}{4}$ 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, Crickets, Cutworms, Digger Wasps, Earwigs, Frit Flies, Lawn Billbugs, Leafhoppers, Sod Webworms (Lawn Moths), Sowbugs (Pillbugs), Springtails (*Collembola*) - Use $1\frac{1}{4}$ - $1\frac{3}{4}$ fl. oz. in 3 gallons of water per 1,000 square feet. Spot spray ant hills and wasp ground nest openings. For digger wasps, 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 pillbug control, apply when activity is first observed or when chewed or brown grass is present, indicating damage from this insect. **Brown Dog Ticks, Chiggers, and Fleas** - Use $1\frac{1}{4}$ 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. **Hyperodes Weevil** - Apply $1\frac{3}{4}$ fl. ozs. in 3 gallons of water per 1,000 sq. ft. of grass. Treat problem areas in mid-April and again in May. **Millipedes** - Use $1\frac{3}{4}$ fl. oz. in 3 gallons of water per 1,000 square feet. **Rhodesgrass Scales** - Use $1\frac{3}{4}$ 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 $1\frac{3}{4}$ fl. oz. in 3 gallons of water per 1,000 sq. ft. of lawn. Apply any time between late July and early October.

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NUISANCE PESTS IN OUTSIDE AREAS: Ants, Boxelder Bugs, Brown Dog Tick, Chiggers, Clover Mites, Cockroaches, Crickets, Earwigs, Fleas, Flies, Millipedes, Sowbugs (Pillbugs), Spiders, Springtails (Collembola) - Mix 1¼ fl. oz. in 3 gals. of water and thoroughly spray window and door screens, sills, foundations, porch and patio walls, entranceways, walks, garbage cans, tree trunks, and into cracks and other places where insects can hide. To prevent entry into houses, spray a five-foot band of soil around the house next to the foundation and spray the foundation of the house to a height of 2-3 feet. Repeat application as necessary. Do not apply to animals. Do not treat plants (other than tree trunks) at this nuisance pest rate.

**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.