



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

FEB 28 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Bethany G. Hulcy
Gowan Company
Box 5569
Yuma, AZ 85366

Subject: Label Amendment Submission of 08/03/93 in Response to PR Notice 93-7
EPA Reg. No. 10163-103
GOWAN DIAZINON 50 WP

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 reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (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 not been reviewed or 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:

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
- AND
- WITHIN one year from date of this acceptance.



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

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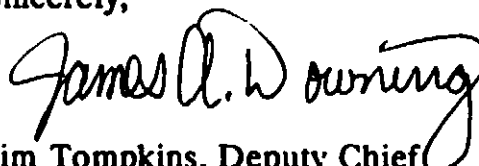
Submit the final printed labeling via the U.S. Postal Service to:

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 printed 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,


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

Attachment

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division

Bethany G. Hulcy
GOWAN COMPANY
BOX 5569
YUMA AZ 85366

Subject: Label Amendment Submission of 08/03/93
to Comply with WPS Labeling Requirements
EPA Reg Nr. 10163-103
GOWAN DIAZINON 50 WP

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

There is a typographical error(s) in the Spanish language
text.

4 9 10

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

GOWAN DIAZINON 50 WP

Active Ingredient: Diazinon;	% by wt.
(0,0-Diethyl 0-[2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate).....	50%
Inert Ingredients.....	<u>50%</u>
	Total 100%

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 the label, find someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT Organophosphate Insecticide

IF SWALLOWED, call a physician or Poison Control Center immediately. Drink one or two glasses of water and induce vomiting by touching back of throat with finger. Repeat until vomit fluid is clear. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

IF INHALED, remove victim to fresh air. Apply artificial respiration if indicated.

IF ON SKIN, remove contaminated clothing and wash affected areas thoroughly with soap and water.

IF IN EYES, flush eyes with plenty of clear water for at least 15 minutes. Call a physician if irritation persists.

NOTE TO PHYSICIAN: Gastric lavage is indicated. Atropine sulfate and 2-PAM are specific antidotes.

NET WEIGHT _____ POUNDS

EPA Reg. No. 10163-103
EPA Est. No. 10163-AZ-1

ACCEPTED
with COMMENTS
In EPA Letter Dated
FEB 28 1994

Gowan Company
P.O. Box 5569
Yuma, AZ 85366-5569

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
or recorded, for the pesticide
registered under EPA Reg. No.
10163-103

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

May be fatal if swallowed. May be absorbed through skin. Do not breathe dust or spray mist. Avoid contact with skin, eyes and clothing. Avoid contamination of food and feed. Do not use on humans or household pets.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

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.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, birds, and other wildlife. Birds feeding on treated areas may be killed. Keep out of lakes, streams, ponds, tidal marshes, and estuaries (except for effluence from treated watercress beds). 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 where impact on threatened endangered species is likely. Contact your State Fish and Game Agency before applying this product. Apply this product only as specified on this label.

This pesticide is highly toxic to bees exposed to direct treatment or to residue 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.

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 12 hours. 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
- Waterproof gloves
- Shoes 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.

- Do not allow children and pets or treated areas until spray has been completely dried.

Note: The California Department of Agriculture has set a 5-day reentry period for Diazinon on citrus, 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 organic phosphate pesticides is applied in combination, the interval should be prolonged by adding to the longest applicable interval an additional 50% of that interval.

STORAGE AND DISPOSAL

DO NOT CONTAMINATE water, food or feed by storage or disposal.

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

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Note: When used in the dormant or pre-bloom stages, AP is used in the regular cover spray program. Slight cooling may occur on some varieties of scales, such as Golden Delicious. Do not apply to apples or pears within 14 days of harvest.

Apricots
Scales (including San Jose, parlatoria, black, brown, apricot), Mite eggs (including European red mite, brown mite), Twig borers, Aphid eggs (including apple, black cherry, mealy plum), Mealybugs. Apply as a dormant spray 1 lb. of Gowan Diazinon 50 WP plus 2 gals. of dormant oil or 1-1/2 gals. superior type oil per 100 gals. of water.

Aphids, Brown mite (Clover mite), Twospotted spider mite, Olive scale crawlers, San Jose scale crawlers. Mix 1 lb. per 100 gals. of water. Apply when aphids, mites and scale crawlers first appear.

Olive scale crawlers: Mix 1/2 lb. of Gowan Diazinon 50 WP plus 1/2 gals. of light medium horticultural oil per 100 gals. of water. Apply when scale crawlers are present.

Apricot mealybug: Mix 1 lb. 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 fruitworm, Cherry fruitworm, Blueberry maggot, Aphids, Thrips, Twospotted mite: Mix 1 lb. per 100 gals. of water. Apply up to 200 gals. of spray per acre, or apply 2 lbs. per acre in sufficient water for thorough coverage. Do not apply within 7 days of harvest.

Caneberries (Blackberries, Boysenberries, Dewberries, Loganberries, Raspberries) Leafhoppers, Thrips, Aphids, Twospotted mite, Raspberry sawfly: Mix 1 lb. per 100 gals. of water and apply up to 200 gals. of spray per acre, or apply 2 lbs. per acre in sufficient water for thorough coverage.

Raspberry fruitworm: Apply at the above rates when blossom buds separate and repeat application immediately before blossoms open.

Dryberry mite: Mix 2 lbs. per 100 gals. of water. Apply as a dormant spray in early spring, when cones are still on the ground and buds are closed. Make a second application when the buds are well developed, but still closed.

Raspberry crown borer (Raspberry root borer): Mix 4 lbs. per 100-200 gals. of water and apply 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.

Do not apply within 7 days of harvest.

Chemises
Scales (including San Jose, parlatoria, black, brown, apricot); Mite eggs (including European red mite, brown mite), Twig borers; Aphid eggs (including apple, black cherry, mealy plum); Mealybugs: Apply as a dormant spray 1 1/2 lbs. Gowan Diazinon 50 WP plus 3 gals. dormant oil or 1-1/2 gals. superior type oil per 100 gals. of water.

Eyepotted bud moth, Fruitree leafroller: Mix 1 lb. per 100 gals. of water. Apply in cover sprays as necessary, beginning with petal fall.

Leafhoppers: Apply 1 lb. 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 fly: Mix 1/2-1 lb. per 100 gals. of water. Make 3 or 4 applications, beginning when adult flies begin to emerge and repeating at 10-day intervals.

Black cherry aphid: Mix 1 lb. per 100 gals. of water. Apply as a cover spray when aphids appear and repeat after 10 days.

San Jose scale crawler: Mix 1 lb. per 100 gals. of water. Apply during the pre-pink stage or when crawlers first appear.

Cherry rust mite: Mix 1/2-1 lb. per 100 gals. of water. Apply as a supplemental spray after harvest. Do not apply within 10 days of harvest.

Cranberries
Blackheaded fireworm, Rhopobota naevana: Apply 4 lbs. in 400 gals. of water per acre.

Cranberry fruitworm: Apply 6 lbs. in 400 gals. of water per acre. Do not apply within 7 days of harvest.

Figs
Vinegar fly (Drosophila spp.), Dried fruit beetle: Apply 1 lb. per 100 gals. of water. Do not apply within 5 days of harvest.

Filberts
Filbert leafroller, Aphids: Apply 2-4 lbs. in 250-400 gals. of water per acre, as a thorough cover spray.

Citrus Fruits (Grapefruit, Lemons, Limes, Oranges, Tangerines, Tangerines, Citrus Citron, Kumquats, and hybrids of these)
Citrus aphid, Cottony-cushion scale crawlers, and Soft scale crawlers: Apply 1/2-1 lb. per 100 gals. of water (maximum 1000 gals. per acre) as a thorough cover spray when aphids and crawler stages of scale insects first appear.

Fruitree leafroller: Mix 1/2-1 lb. per 100 gals. of spray (maximum 1000 gals. per acre) when an average of 50 percent of eggs in egg masses have hatched in the spring.

Citrus thrip: Apply 1 lb. in 100 gals. of water (maximum 1000 gals. per acre) when thrips first appear.

Citrus snow scale: Apply 1-2 lbs. per 100 gals. of water (maximum 1000 gals. per acre) as a postbloom spray and again as a summer spray. For heavy snow scale infestations, use the higher dosage rate. Thorough coverage of tree trunk, limbs, and twigs is essential.

Do not apply during bloom. Do not apply to citrus within 21 days of harvest.

Grapes
Pacific spider mite, Leafhoppers, Grape berry moth, Grape leafroller: Mix 1 lb. per 100 gals. of water and apply as a thorough cover spray, or apply 2 lbs. per acre in sufficient water for thorough coverage. Do not apply within 18 days of harvest.

Drosophila spp.: Mix 6 oz. per 100 gals. of water and apply as a thorough cover spray, or apply a maximum of 18 oz. per acre in sufficient water for thorough coverage when insects first appear. Make additional applications at weekly intervals as necessary. Do not apply within 7 days of harvest. If a spreader-sticker is used, do not apply within 18 days of harvest.

Olive
Olive scale: Mix 3/4-1 lb. of Gowan Diazinon 50 WP plus 1/2 gals. of light medium summer horticultural oil per 100 gals. of water. Apply as a cover spray in June or July.

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Gowan Diazinon 50 WP should be mixed with sufficient water to assure thorough coverage unless otherwise noted in the Directions for Use. Best control is obtained when application is made at first sign of insects. Applications should be repeated as necessary to maintain control.

Since Gowan Diazinon 50 WP is a wettable powder formulation, constant agitation is necessary during application.

CHEMIGATION STATEMENT

Do not apply this product through any type of irrigation system.

FRUIT AND NUT INSECTS

Gowan Diazinon 50 WP may be applied using ground or aerial application equipment. For dilute ground sprays, mix specified rate of Gowan Diazinon 50 WP and apply at 300 to 400 gals. of water per acre. For concentrate ground sprays, use equivalent rates of Gowan Diazinon 50 WP in minimums of 20-50 gals. of water per acre. For aerial applications, use equivalent ground rate of Gowan Diazinon 50 WP in minimums of 2-5 gals. of water per acre. Observe stated time intervals between last application and harvest.

*NOTE: The rate of Gowan Diazinon 50 WP for concentrate ground and aerial sprays is based upon a dilute ground spray with conventional ground equipment applied at 300 to 400 gals. of water per acre. If directions call for 1 lb. of product per 100 gals. of water, this amounts to 3 to 6 lbs. of Gowan Diazinon 50 WP per acre when applied as dilute ground spray volumes.

Almonds
Mites, Twig borers: Apply 1-1 1/2 lbs. Gowan Diazinon 50 WP per 100 gals. of water as infestations develop.

Scales (including San Jose, parlatoria, black, brown, apricot); Mite eggs (including European red mite, brown mite); Twig borers; Aphid eggs (including apple, black cherry, mealy plum); Mealybugs: Apply as a dormant spray 1-1 1/2 lbs. Gowan Diazinon 50 WP plus 2-3 gals. of dormant oil or 1-1 1/2 gals. superior type oil per 100 gals. of water.

Almond hulls may be fed to livestock.

Apples
Leafhoppers: Apply 1 lb. per 100 gals. of water in 3-5 applications beginning at petal fall and continuing through the growing season, or apply as infestations develop.

Scales (including San Jose, parlatoria, black, brown, apricot); Mite eggs (including European red mite, brown mite); Twig borers; Aphid eggs (including apple, black cherry, mealy plum); Mealy bugs: Apply as a dormant or delayed-dormant spray 1 lb. of Gowan Diazinon 50 WP plus 2 gals. dormant oil or 1-1 1/2 gals. superior type oil per 100 gals. of water.

Eyepotted bud moth, Fruitree leafroller, Mealybug: Mix 1 lb. per 100 gals. of water. Make 3-8 cover spray applications, beginning in the pink stage.

Do not apply within 14 days of harvest.

Apples and Pears
Cauling moth, Rosy apple aphid, Green apple aphid, Woolly apple aphid, Mites: Mix 1 lb. Gowan Diazinon 50 WP per 100 gals. of water. Make 3-8 cover spray applications, beginning with the first cover. Applications should be timed according to insect infestations.

Apple maggot: Mix 1 lb. of Gowan Diazinon 50 WP per 100 gals. of water. Make at least 3 cover spray applications when flies are active and laying eggs.

San Jose scale crawlers, Forbes scale crawlers: Mix 1 lb. per 100 gals. of water. Apply early in the season when crawlers first appear. If infestation warrants, make a second application 7-10 days later.

Do not apply during bloom to avoid injury to pollinating insects within 25 days of harvest.

Peaches and Nectarines

Scales (including San Jose, parlatoria, black, brown, apricot); Mite eggs (including European red mite, brown mite); Twig borers; Aphid eggs (including apple, black cherry, mealy plum); Mealybugs. Apply as a dormant spray: 1 lb. Gowan Diazinon 50 WP plus 2-3 gals. dormant oil or 1 1/2 gals. superior type oil per 100 gals. of water.

Peach twig borer, Parlatoria scale. Mix 1 lb. Gowan Diazinon 50 WP plus 1 gal. of light medium summer horticultural oil per 100 gals. of water. Apply at petal fall.

Aphids, brown mite (Clover mite), Twospotted spider mite, Olive scale crawlers, San Jose scale crawlers. Mix 1 lb. per 100 gals. of water. Apply when aphids, mites, and scale crawlers first appear.

Olive scale crawlers. Mix 1/2 lb. of Gowan Diazinon 50 WP plus 1 1/2 gals. light medium horticultural oil per 100 gals. of water. Apply when scale crawlers are present.

Oriental fruit moth. Mix 1 lb. 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 borer. Mix 1 lb. per 100 gals. of water and apply to peaches in May and June.

Leafhopper (Peaches only): Apply 1 lb. 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 postharvest spray apply 1 1/2-2 lbs. 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.

Pears

Scales (including San Jose, parlatoria, black, brown, apricot); Mite eggs (including European red mite, brown mite, pearleaf blister mite); Twig borers; Aphid eggs (including apple, black cherry, mealy plum); Mealybugs. Apply as a dormant spray 1 lb. of Gowan Diazinon 50 WP plus 2 gals. dormant oil or 1-1 1/2 gals. superior type oil per 100 gals. of water.

Pear psylla: Mix 1/2-1 lb. per 100 gals. of water. Apply as a cover spray at pre-pink stage. Make 1-2 additional applications during the first and second cover sprays if necessary.

Tarnitiform leafminer, Mealybug: Mix 1 lb. per 100 gals. of water. Apply in 3 cover sprays, beginning in April.

Refer also to the Apples section.

Do not apply within 14 days of harvest.

Pecans

Aphids, Mites, Pecan nut casebearer, Walnut caterpillar: Apply 2-6 lbs. per acre as a foliage spray. Do not apply after husks crack.

Pineapple

Pineapple scale: Apply 10 Lbs. Gowan Diazinon 50 WP plus 2 gals. of light medium horticultural oil in 500 gals. of water per acre to the vegetative slips on the plant following harvest of the pineapple.

Pineapple mealybug: Apply 4 lbs. per acre. May be applied on day of harvest.

Pineapple forage and refuse may be fed to livestock 7 days following last application.

Plums and Prunes

Scales (including San Jose, parlatoria, black, brown, apricot); Mite eggs (including European red mite, brown mite, pearleaf blister mite); Twig borers; Aphid eggs (including apple, black cherry, mealy plum); Mealybugs: Apply as a dormant spray 1 lb. Gowan Diazinon 50 WP plus 2-3 gals. dormant oil or 1-1 1/2 gals. superior type oil per 100 gals. of water. For late April or May applications, mix 1 lb. of Gowan Diazinon 50 WP plus 1 gal. of light medium summer horticultural oil per 100 gals. of water.

Brown mite (Clover mite), European red mite. Apply 1 lb. in 100 gals. of water.

Leafcurl plum aphid, Mealy plum aphid, Thistle aphid: Apply 1/2-1 lb. per 100 gals. of water.

Do not apply within 10 days of harvest.

Strawberries

Aphids, Twospotted spider mite. Apply 1 lb. in 100 gals. of water per acre.

Cyclamen mite: Apply 2 lbs. in 100 gals. of water per acre, directing spray to plant crowns. Plants should be sufficiently irrigated to assure thorough coverage of the foliage. Make additional applications, if necessary, after harvest.

Male cricket: Broadcast 2 lbs. per acre when insects are present. Apply 1-2 days before transplanting and mix into the top 1-2 inches of soil immediately.

Strawberry leafroller: Mix 3/4-1 lb. per 100 gals. of water. Apply 200 gals. spray per acre when blossoms show color.

Do not apply within 5 days of harvest.

Walnuts

Aphids, Mites: Apply 2 lbs. per acre as a foliage spray.

Codling moth, Scale crawlers, Walnut caterpillar: Apply 6 lbs. per acre.

Do not apply after the husks open.

VEGETABLE FOLIAR INSECTS

Gowan Diazinon 50 WP should always be applied as a spray in sufficient water to assure thorough coverage of the foliage.

Beans (Pole Beans, Snap Beans, Lima Beans)

Black bean aphid, Mexican bean beetle, Leafminers. Apply 1-1 1/2 lbs. per acre.

Cucumber beetle: Apply 1/2-3/4 lb. 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 leafminer, Leafhoppers, Mites: Apply 1 lb. 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.

Broccoli, Cabbage, Cauliflower

Aphids, Diamondback moth, Imported cabbageworm, Dipterous leafminer. Apply 1/2-1 lb. per acre. Applications at 7-10 day intervals will usually be required. Do not apply to broccoli or cauliflower within 5 days, or to cabbage within 7 days of harvest.

Brussels sprouts

Aphids, Diamondback moth, Imported cabbageworm. Apply 1 lb. per acre. Applications at 7-10 day intervals will usually be required. Do not apply to brussels sprouts within 7 days of harvest.

Carrion

Aphids. Apply 1 lb. per acre. Do not apply within 10 days of harvest.

Calary

Aphids, Flea beetles. Apply 1 lb. in 100 gals. of water per acre.

Dipterous leafminer. Apply 1/2-1 lb. per acre in sufficient water to achieve thorough coverage when infestations first appear. Repeat as necessary.

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, Turnip Tops

Aphids, Imported cabbageworm, Diamondback moth, Harlequin cabbage bug, Corn earworm. Apply 1/2-1 lb. per acre. Do not apply to collards, kale, or turnip tops within 10 days, or to swiss chard within 12 days, of harvest.

Cucumbers

Aphids, Serpentine leafminer, Thrips. Apply 1 lb. per acre. Do not apply within 7 days of harvest.

Lettuce and Endive

Aphids, Dipterous leafminer. Apply 1/2-1 lb. per acre. Do not apply within 10 days of harvest.

Melons and Squash (Cantaloupes, Casabas, Greenhorns, Honeydew Melons, Muskmelons, Persian Melons, and hybrids of these; Watermelons and their hybrids; Summer and Winter Squash)

Aphids, Leafhoppers, Mites. Apply 1-1 1/2 lbs. per acre.

Serpentine leafminer, Thrips. Apply 1/2-1 lb. per acre.

Do not apply to melons or winter squash within 3 days, or to summer squash within 7 days of harvest.

Mushroom Houses

Mushroom flies (Phorids and Sciarids): Mix 4-8 lbs. in 50 gals. of water (0.5% to 1.0% 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 1/2 lb. in 6 gals. of water and apply with a brush. Do not treat compost.

Onions

Onion thrips. Apply 1 lb. per acre. Do not apply within 10 days of harvest.

Peas

Aphids, Leafminers: Apply 3/4-1 lb. 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 leafminer: Apply 1/2 lb. per acre. Do not apply within 5 days of harvest.

Potatoes

Aphids, Flea beetles, Colorado potato beetle, Dipterous leafminer: Apply 1/2-3/4 lb. per acre.

Banded cucumber beetle, Leafhoppers, Southern armyworm: Apply 3/4-1 lb. per acre.

Do not apply within 35 days of harvest.

Radishes, Parsnips, Turnips

Aphids, Flea beetles, Dipterous leafminer: Apply 1/2-1 lb. per acre. Do not apply within 10 days of harvest.

Spinach and Beets

Aphids, Dipterous leafminer. Apply 1/2-1 lb. 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 earworm: Apply 2-2 1/2 lbs. 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 Insects.

Tomatoes

Aphids, Dipterous leafminer. Apply 1/2 lb. per acre. To control leafminers weekly applications are usually required.

Banded cucumber beetle, Fall armyworm, Southern armyworm. Apply 3/4-1 lb. per acre.

Vinegar fly (*Drosophila* spp.) Apply 1/2-1 1/2 lbs. per acre. Weekly applications are usually required.

Do not apply within 1 day of harvest.

Watercress (Hawaii only)

Cyclamen mite: Apply 1 lb. in 100 gals. of water per acre. Direct spray to 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

Gowan Diazinon 50 WP should always be applied as a spray in sufficient water to assure thorough coverage of the soil.

Carrot rust fly

Carrots. Apply 4 lbs. per acre as a drench to the seed furrow at planting time.

Citronella (Surface and Subterranean)

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

VEGETABLE SOIL INSECTS (Continued)

Broadcast 4-8 lbs. per acre just prior to planting. Work into the soil immediately, 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.

Garden symphyla (Centipedes)

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

Broadcast 20 lbs. per acre just prior to planting. Work into soil 4-8 inches immediately. This preplant treatment will also control other soil insects: cutworms (surface and subterranean), mole crickets, root maggots, and wireworms.

Mole crickets

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

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

Onion maggots

Onions: Furrow Application. Apply 2 lbs. per acre in sufficient water to drench the seed furrow at planting time.

Broadcast Application: Broadcast 4-8 lbs. per acre just prior to planting. Work into soil 3-4 inches immediately.

Root maggots

Broccoli, Brussels sprouts, Cabbage, and Cauliflower. (1) Broadcast Application: Broadcast 4-6 lbs. per acre and immediately work into the soil 3-4 inches before seeding, either in the seedbed or in the field or before transplanting. (2) Transplant Water (Drench) Application: Mix 1/4-1/2 lb. in 50 gal. of transplant water, when 200-300 gals. of water are used per acre. May be applied at the rate of 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 stress at time of transplanting.

Radishes: Mix 2 lbs. in 50 gals. of water. Apply 80-100 gals. per acre (1-1 1/2 gals. per 1000 linear feet of row) in the seed furrow at planting time.

planting time.

Wireworms

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

Broadcast 6-8 lbs. per acre prior to planting, and work into soil 4-8 inches immediately.

Potatoes: Broadcast 6-12 lbs. per acre prior to planting. Immediately disk or harrow into soil 4-8 inches.

Southern potato wireworms

Potatoes (Southeastern U.S.): For potatoes on mineral soils, broadcast 4-8 lbs. per acre prior to planting, and immediately work into soil 3-6 inches depending on location of wireworms.

FIELD AND FORAGE INSECTS

Gowan Diazinon 50 WP should always be applied as a spray in sufficient water to assure thorough coverage of the foliage or soil, depending on the type of application.

Alfalfa, Clover and Trefoil

Spotted alfalfa aphid, Yellow clover aphid, Pea aphid, Leafhoppers, Plant bug nymphs, Mites: Apply 3/4-1 lb. per acre.

Grasshoppers: Apply 1 lb. per acre.

Cutworms (Surface and Subterranean): Broadcast 4-8 lbs. per acre just prior to planting. Work into the soil immediately, 2-3 inches for surface cutworms, 3-6 inches for subterranean cutworms.

Dairy and beef cattle and sheep (1) may be grazed immediately following application, (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 lbs. 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 except as indicated below under Livestock Insects, with either air or ground equipment.

Do not treat during bloom to avoid injury to pollinating insects.

Corn

Corn rootworm larvae—

(Postemergence Basal Treatment)

Apply 1 1/2-2 1/2 oz. per 1000 linear feet of corn row in sufficient water to wet base of corn plant and a narrow band of soil next to the plant. Refer to row spacing chart for amounts recommended per acre. Cover treated band with 2-3 inches of soil using a disk tiller or cultivator immediately after spraying. Application should be made at the first sign of corn rootworm larvae. Application should not be made later than June 24 in the Middle Corn Belt or July in the Northern Corn Belt.

SUGGESTED RATES ACCORDING TO ROW SPACING FOR CORN ROOTWORM LARVAE CONTROL

Spacing	Linear Feet of Corn Row/Acre	Amount of Gowan Diazinon 50 WP Per Acre
48"	10,890	14.28 oz.
42"	12,455	15 1/2-31 oz.
40"	13,068	16-32 oz. (1-2 lbs.)
38"	13,939	17 1/2-35 oz.
36"	14,250	18-36 oz.
30"	17,424	22-44 oz. (1 1/2-2 1/4 lbs.)
24"	21,760	27 1/2-55 oz.
20"	26,136	32-64 oz. (2-4 lbs.)
15"	34,848	44-88 oz.

Note: For row spacings not listed, calculate the appropriate dosage rates based on the 40-inch row figures.

Seedcorn maggot: Broadcast 4-8 lbs. per acre just prior to planting. Work into 2 inches of soil immediately.

Cutworms (Surface and Subterranean): Broadcast 4-8 lbs. per acre. For surface cutworms apply just prior to planting or when larvae first appear and work into 1-2 inches of soil immediately. Do not apply later than lay-by. For subterranean cutworms, apply just prior to planting and work into 3-6 inches of soil immediately.

Wireworms: Apply 6-8 lbs. per acre prior to planting and work into 4-8 inches of soil immediately.

Corn leaf aphid: Apply 1-2 lbs. per acre in sufficient water to provide complete coverage of the upper portions of plants. Repeat application as necessary.

Grasshoppers: Apply 1 lb. per acre.

Sap beetle: Apply 2-2 1/2 lbs. per acre. Add 1-2 gals. of soluble mineral oil per acre to the spray mixture. Consult local agricultural authorities 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 bug, Cotton leafworm, Cotton leafperforator: Apply 1-2 lbs. 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 wastes to livestock.

Cucumbers

Cutworms (Surface and Subterranean): Broadcast 4-8 lbs. per acre, just prior to planting. Work into 2-3 inches of soil for surface cutworms, 3-6 inches for subterranean cutworms.

Hops

Aphids, Mites: Apply 2 lbs. per acre. Do not apply within 14 days of harvest.

Legumes

Cutworms (Surface and Subterranean): Broadcast 4-8 lbs. per acre just prior to planting. Work into 2-3 inches of soil immediately for surface cutworms, 3-6 inches for subterranean cutworms.

Peanuts

Cutworms: Apply 4 lbs. per acre in a 12-inch band over the row. Use sufficient water to achieve thorough coverage. Begin application when small larvae appear. Two or three additional applications at 3-week intervals may be necessary. Do not apply within 21 days of peanut harvest.

Note: 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

Sorghum midge: Apply 1/2-1 lb. per acre when 90% of the heads have emerged from the boot. Repeat application within 4 days.

Crop may be fed to livestock immediately following treatment. Do not apply within 7 days of harvesting for grain.

Cutworms (Surface and Subterranean): Broadcast 4-8 lbs. per acre just prior to planting. Work into 2-3 inches of soil immediately for surface cutworms, 3-6 inches for subterranean cutworms.

Soybeans

Cutworms (Surface and Subterranean): Broadcast 4-8 lbs. per acre just prior to planting. Work into 2-3 inches of soil immediately for surface cutworms, 3-6 inches for subterranean cutworms.

Sugar Beets

Beet leafhopper, Dipterous leafminer, Aphids: Apply 3/4-1 lb. per acre.

Grasshoppers: Apply 1 lb. per acre.

Wireworms: Broadcast 6-8 lbs. per acre just prior to planting, and work into 4-8 inches of soil immediately. Tops may be fed to beef and dairy animals.

Sugarcane

Aphids: Apply 1/2-1 lb. per acre.

Note: Allow 1 day between last application and harvest. Bagasse and forage may be fed to livestock.

Wireworms: Apply 8 lbs. per acre on a 12-inch band centered over the furrow in sufficient water to obtain thorough coverage. Make application directly to seed pieces in open furrow at covering time.

Telbaze

Aphids, Flea beetles: Apply 1/2-3/4 lb. per acre. Do not apply within 3 days of harvest.

Cutworms: Broadcast 4-6 lbs. per acre before transplanting and work into 2-4 inches of soil immediately.

Green June beetle larvae: Mix 1/4 lb. in 50 gals. of water and apply as a drench (100 gals. per 100 sq. yds.) to uprooted areas of plant beds with sprinkling can.

Mole cricket: Broadcast 2 lbs. per acre, when insects are present. Make application to beds or fields 1-2 days prior to sowing seed or transplanting, and work into 1-2 inches of soil immediately.