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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Dr. Lee Hubbard
NOVARTIS CROP PROTECTION, INC.
P.O. BOX 18300
Greensboro, NC 27419

FEB 13 1998

Subject: Ridomil Gold EC; EPA Reg. No. 100-801
Review of Primary Eye Irritation Data and Amended
Labeling; Your Submission dated 9/11/97
Review of Basic CSF; Your Submission dated 1/29/98

Dear Dr. Hubbard:

The primary eye irritation data submitted has been reviewed and found acceptable. A copy of the review is enclosed. The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable subject to the following changes:

On page 3 of the label

Change the restricted entry interval in the Agricultural Use Requirement block to 12 hours.

Delete the requirement for protective eyewear in the Agricultural Use Requirement block.

On page 36 and 40 of the label

Change the signal word from "WARNING" to "CAUTION" in the precautionary statements.

Revise the first sentence in the precautionary statements to read "Causes moderate eye irritation".

Revise the statement of practical treatment for eye exposure as follows: "IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists."

Remove the requirement for protective eyewear for Applicators and other handlers.

A stamped copy of the labeling is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment.

Review of CSF for basic formula

There is no objection to the use of the basic formulation (Confidential Statement of Formula) dated 1/29/98. Please note that this basic formulation supersedes all previous basic formulas and has been inserted in the file for the subject product.

If you have any questions, then please contact Summer Gardner-Jenkins of my staff at (703) 308-9353.

Sincerely,

Mary L. Waller

Mary L. Waller
Acting Product Manager (21)
Fungicide Branch
Registration Division (7505C)

Ridomil Gold® EC Super Label
(Front Cover)
Labelmaster Booklet

Ridomil Gold® EC

FUNGICIDE

For the control of certain diseases in various crops caused by the Oomycete class of fungi

One Gallon
U. S. Standard Measure

One Pint
U. S. Standard Measure

Active Ingredient*:

(R) -2-[(2,6-dimethylphenyl)-methoxyacetyl-amino]- propionic acid methyl ester	47.6%
Related compounds	1.4%
<u>Inert Ingredients</u>	<u>51.00%</u>
Total:	100.00%

* Contains 4 lbs. Active ingredient per gallon.

EPA Reg. No. 100-801

EPA Est. 34704-MS-1

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet

- NCP 163LA (one gallon)
- NCP 163LA (one pint)
- NCP 163LA (15 gallon)

ACCEPTED
with COMMENTS
In EPA Letter Dated
2/13/98
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
100-801

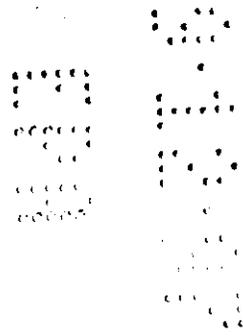
DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

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

Conditions of Sale and Warranty

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

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



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DIRECTIONS FOR USE

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) of 48 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

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

General Information

Ridomil Gold EC is a systemic fungicide for use on selected crops to control certain diseases caused by members of the Oomycete class of fungi. Other fungicides must be used to control diseases incited by other classes of fungi.

THIS PRODUCT IS NOT TO BE USED IN FOLIAR APPLICATIONS, UNLESS SPECIFIED ON THIS LABEL OR IN SOLUTIONS USED TO DIP PLANTS. DO NOT USE IN NURSERIES, TURF, OR LANDSCAPE PLANTINGS, UNLESS SPECIFIED IN THIS LABEL.

Note: Ridomil Gold EC is a systemic fungicide having a specific mode of action and could be subject to development of insensitive strains of fungi. Development of insensitivity cannot be predicted. Therefore, Ciba-Geigy cannot assume liability for crop damage resulting from insensitive strains of fungi. If treatment is not effective following the use of Ridomil Gold EC as recommended, an insensitive strain of fungi may be present. If the treatment is ineffective due to the presence of a Ridomil Gold EC insensitive strain of fungi, neither Ridomil Gold EC nor any other fungicide with similar action will effectively control that disease. Consideration should then be given to the prompt use of other types of suitable fungicides. Consult with your State Agricultural Experiment Station or Extension Service Specialist for guidance on your particular crop and disease control situation.

Do not make foliar applications to field grown tobacco, or other crops, unless specified since this practice may encourage more rapid development of insensitivity.

THIS LABEL IS FOR FIELD USE ONLY AND IS NOT INTENDED FOR USE ON TRANSPLANT TRAYS, GREENHOUSES, LATH HOUSES, FLOAT HOUSES, HYDROPONIC PRODUCTION, OR IN BEDDING PLANT STRUCTURES.

Where rate ranges are specified on this label, use the higher rate when heavy disease pressure is expected and the lower rate when disease pressure is expected to be light, unless otherwise noted.

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

Mixing Instructions

Add 1/4-1/2 of the required amount of water to the spray tank, add the proper amount of Ridomil Gold EC, then add the rest of the water. When tank

mixing other products with Ridomil Gold EC, follow the proper sequence of adding products to the spray tank. Wettable powders or water dispersible granules should be added to the water in the tank first, followed by flowable products, with emulsifiable concentrates, such as Ridomil Gold EC, added last. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Ridomil Gold EC is usually compatible with Balan®, Bravo®, Dasanit® + Di-Syston®, Dithane® M-22, Dithane M-45, Dasanit + Nematicur®, Dasanit, D•z•n®, Enide®, Furadan®, Lorsban®, Manzate®, Manzate 200, Mocap®, Mocap Plus 4-2EC, Paarlant®, Terraclor® 2E, Terraclor 75WP and Tillam®.

To assure the compatibility of Ridomil Gold EC with these and other products, pour the products into a small container of water in the correct proportions. After thorough mixing, let stand for 5 minutes. If the combination remains mixed, or can be remixed readily, the mixture is compatible.

BEFORE TANK MIXING RIDOMIL GOLD EC WITH OTHER REGISTERED PRODUCTS FOR ANY USE ON THIS LABEL, READ THE LABEL OF THE TANK MIX PARTNER TO BE CERTAIN IT IS LABELED FOR USE ON THE PARTICULAR CROP AND THAT USE PATTERNS ARE COMPATIBLE WITH THOSE OF RIDOMIL GOLD EC.

Application Instructions

Apply Ridomil Gold EC by ground or air in sufficient water or liquid fertilizer to provide uniform coverage of the soil surface. Apply in a minimum of 20 gals./A for ground applications and 5 gals./A by air. Refer to the specific crop directions for use for application recommendations.

For banded applications, the area actually is the area covered by the band, not total cropland area planted. Some row-crop recommendations are based on treating in-the-row and these rates generally are specified as amounts (fl. oz.) of product per certain row length (often 1,000 ft.). Others express rates as amount per treated acre which means the total area treated with the pesticide. If rates are expressed as amount per treated acre and banded applications are used, the amount of pesticide used per acre will be proportionately less. The following formula can be used to calculate the amount of Ridomil Gold EC needed per acre of crop when banded applications are made.

Calculate the amount of Ridomil Gold EC needed for band treatment by the formula:

$$\frac{\text{band width in inches}}{\text{row spacing in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

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Application Through Irrigation Systems

Ridomil Gold EC, alone or **in combination** with other pesticides which are registered for application **through irrigation systems**, may be applied through irrigation systems. **Apply** this product only through center pivot, solid set, hand move, moving wheel, micro-sprinkler, or drip irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, **you should** contact State Extension Service specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) 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 should the need arise.

Operating Instructions

1. The system must contain a functional check-valve, 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.

Application Instructions

Ridomil Gold EC must be applied on the schedule specified in the specific crop use recommendations, not according to the irrigation schedule.

With the exception of avocados and citrus, Ridomil Gold EC has not been sufficiently tested when applied through irrigation systems to assure consistent product performance for all labeled uses. The following calibration and application techniques are provided for user reference, **but do not constitute a warranty of fitness for application through sprinkler or drip irrigation equipment.** Users must check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler or drip irrigation equipment.

Note: Do not inject Ridomil Gold EC at full strength or deterioration of valves and seals may occur. Use a dilution ratio of at least 15 parts water to 1 part Ridomil Gold EC in the mix tank. Ridomil Gold EC is corrosive to many seal materials. Leather seals are best. EPDM or silicone rubber seals can be used, but should be replaced once a year. Do not use Viton, Buna-N, Neoprene, or PVC seals.

Center Pivot Irrigation Equipment

Notes: (1) Use only with drive systems which provide uniform distribution. (2) Do not use end guns when chemigating Ridomil Gold EC through center pivot irrigation systems because of non-uniform application. (3) Plug the first nozzle closest to well head to protect water source.

1. Determine the size of the area to be treated.
2. Determine the time required to apply 1/4 inch of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. Run the system at 80-95% of the manufacturer's rated capacity.
3. Using water, determine the injection pump output when operated at normal line pressure.
4. Determine the amount of Ridomil Gold EC required to treat the area covered by the irrigation system.
5. Add the required amount of Ridomil Gold EC and sufficient water to meet the injection time requirements to the solution tank.
6. Make sure the system is fully charged with water before starting injection of the Ridomil Gold EC solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
7. Maintain constant solution tank agitation during the injection period.

- 8. Continue to operate the system until the Ridomil Gold EC solution has cleared the sprinkler head.

Solid Set, Hand Move, and Moving Wheel Irrigation Equipment

- 1. Determine the acreage covered by the sprinklers.
- 2. Fill injector solution tank with plain water and calibrate the flow rate of the system to deliver the contents of the tank over a 20 to 30-minute time interval.
- 3. Determine the amount of Ridomil Gold EC required to treat the area covered by the irrigation system.
- 4. Add the required amount of Ridomil Gold EC into the same quantity of water used to calibrate the injection period.
- 5. Operate the system at the same pressure and time interval established during the calibration.
- 6. Inject Ridomil Gold EC at the beginning of the irrigation cycle in 1/2-1 inch of water or as a separate application to maximize the effectiveness of the fungicide. Do not apply in excess of 1 inch of water.
- 7. Stop injection equipment after treatment is completed. Continue to operate the system until the Ridomil Gold EC solution has cleared the last sprinkler head.

Micro Sprinkler or Drip Irrigation Systems

General Instructions

- 1. Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters in the system are putting out the same amount of water.
- 2. Only pressure injection or venturi equipment is recommended.
- 3. Determine the area to be treated in each irrigation run.
- 4. Measure the output of each of the emitters or drip tubes closest to and farthest from the injector site.
- 5. For calibration, substitute a concentrated detergent (such as Wisk) or a soluble fertilizer for the Ridomil Gold EC in the injector tank. The detergent will bubble as it leaves the emitters. The time period over which bubbles occur should be checked for both the closest and farthest emitters. If these times are not within 2 minutes of each

other, adjust the dilution ratio and/or the injection rate.

- 6. If a soluble fertilizer is used, measure the time intervals with a salt bridge. If a drip system is being calibrated, substitute soluble fertilizer for the Ridomil Gold EC in the injector and measure the time intervals with a salt bridge.

Step-by-Step Instructions

- 1. Before starting to calibrate, operate the system until all the emitters are putting out at equal flow rates or until the system is operating at full pressure.
- 2. Make up an indicator solution of detergent or fertilizer, using the same ratio to be used when mixing Ridomil Gold EC.
- 3. Set the injector to apply the indicator solution at the injection rate to be used in the actual Ridomil Gold EC application.
- 4. Attach a 5-inch length of flexible tubing over the emitter closest to the injection point, another length over the emitter farthest away. Both emitters should be monitored to determine the time intervals that the indicator solutions are observed.
- 5. Begin injecting the indicator solution. Direct the flow from the tubes at the emitters into a small container. Begin timing when the indicator solution is first detected, stop timing when the indicator solutions are no longer detected.
- 6. If the period of detection of the indicator solution between the 2 emitters are within 2 minutes of each other, comparable coverage will be obtained. If they are not, make adjustments by increasing the dilution ratio, using more water per part of Ridomil Gold EC, or adjust the injector to a slower flow rate.
- 7. Once the system is calibrated, dilute the needed amount of Ridomil Gold EC with water in the mix tank using a minimum of 15 parts water to 1 part Ridomil Gold EC in the solution tank.
- 8. Do not begin to inject Ridomil Gold EC into the system until all emitters are producing equal flow rates, or until the system is at full pressure.
- 9. Inject the Ridomil Gold EC into the system at the beginning of the irrigation set in 1/2-1 inch of irrigation water. Do not apply in excess of 1 inch of water.

Alfalfa*

*Including birdsfoot trefoil

Ridomil Gold EC applied to the soil at planting will provide control of damping-off caused by *Pythium* spp. and root rots caused by *Phytophthora* spp.

Stand Establishment

Apply 1/4-1/2 pt./A as a broadcast surface spray at planting in a minimum of 20 gals. of water. If inter-seeding alfalfa into existing stands for renovation, apply 1/4 pt./A as a broadcast surface spray at planting in a minimum of 20 gals. of water.

If alfalfa seed was previously treated with Ridomil Gold active ingredient as a seed dressing, an application of Ridomil Gold EC at 1/4 pt./A is recommended at planting. Use the higher rate (1/2 pt./A) in areas where disease pressure is expected to be heavy.

Note: To avoid possible illegal residues, do not feed green forage or cut hay for 60 days following application.

Apples (Bearing and Nonbearing Trees)

Use of Ridomil Gold EC will aid in the control of crown, collar, and root rot caused by *Phytophthora* spp. when used in conjunction with good cultural practices and rootstocks that are most tolerant to the disease. Ridomil Gold EC applications should be made before symptoms appear, especially in areas of the orchard favorable for disease development. Ridomil Gold EC will not revitalize trees showing moderate to severe disease symptoms.

Broadcast Spray or Banded Applications: Apply 2 qts. per treated acre as a broadcast spray (1.5 fl. oz./1,000 sq. ft.) in sufficient water to obtain thorough coverage. The treated area is based on the area under the tree canopy or the area of the sprayed row. Soil surface sprays of Ridomil Gold EC will not be effective until the fungicide is moved into the root zone by rainfall or irrigation. Applications should be made in early spring before growth starts and in the fall after harvest, but before the ground freezes.

Drench: Mix 1/2 pt. of Ridomil Gold EC with 100 gals. of water. Apply the amount of diluted mixture indicated in the table below around the trunk of each tree. Applications should be made in early spring before growth starts and in the fall after harvest, but before the ground freezes. On new plantings, delay the first application until 2 weeks after planting.

Note: To determine trunk diameter, measure the trunk 12 inches above the soil line.

Trunk Diameter	Qts. of Diluted Mixture Per Tree
< 1 inch	1 qt.
1-3 inches	2 qts.
3-5 inches	3 qts.
> 5 inches	4 qts.

Notes: (1) Do not dip roots of trees in or spray bare roots with solutions containing Ridomil Gold EC. (2) Do not graze or feed cover crops in treated orchards, or illegal residues may occur.

Asparagus

Ridomil Gold EC will control crown rot and spear rot caused by *Phytophthora* spp.

Apply 1 pt./A as a broadcast spray in a minimum of 10 gals. of water over the beds.

Cutting Beds: Apply 30-60 days before the first cutting. For additional control, make another application just before the beginning of harvest.

New Plantings: Apply after planting seedlings or after covering one-year old crowns.

Note: Do not apply Ridomil Gold EC within one day of harvest, or possible illegal residues may result.

Avocados

Root Rot - *Phytophthora cinnamomi*

Begin applications at the start of the growing season or at transplanting. Two additional applications should be made at 3-month intervals. Applications are not needed during the winter months of November through February. Ridomil Gold EC may be applied as a sleeve drench at the time of transplanting, as a soil surface spray under sprinkler irrigation systems, as a directed spray under drip emitters, or injected into the irrigation water.

Sleeve Drench: Mix 1/4 fl. oz. of Ridomil Gold EC with 18 gals. of water.

At the time of transplanting, drench the roots inside the sleeve with 1 qt. of Ridomil Gold EC solution per tree.

Note: The sleeve drench will not replace the soil surface applications for long-term control of root rot.

Sprinkler Irrigation: Apply as a soil surface spray under the canopy of the tree in sufficient water to obtain uniform coverage. See the following table for the amount of Ridomil Gold EC to use based on the diameter of the tree canopy. Start applications at the beginning of the growing season or at transplanting and continue at 3-month intervals.

Drip Irrigation: Apply the recommended amount of Ridomil Gold EC (see table) to the soil directly under the drip emitter at each tree. If there is more than one emitter per tree, distribute the total amount of Ridomil Gold EC needed among the emitters.

Injection into Irrigation Water (Sprinkler or Drip Irrigation Only): Inject Ridomil Gold EC into the irrigation water at a rate of 1/2-1 fl. oz./1,000 gals. (1.9-3.75 ppm active ingredient) at each irrigation. If Ridomil Gold EC is not applied at each irrigation, use the table below to determine how much Ridomil Gold EC should be injected into the irrigation water. If Ridomil Gold EC is to be used more frequently than every 3 months, adjust the rates so that no more than the specified amount is applied during each 3-month period. See the General Information section of this label for further instructions and precautions when making applications through irrigation systems.

Diameter of Tree Canopy (Ft.)	Amount of Ridomil Gold EC Per Ten Trees Per 3 Months
2	1/8-1/4 fl. oz.
5	3/4-1 1/2 fl. oz.
10	3 1/4-6 1/2 fl. oz.
15 or wider	7 1/4-14 1/2 fl. oz.

Notes: (1) For best results, use Ridomil Gold EC as soon as soil tests indicate the presence of Phytophthora. (2) For new plantings, the use of Phytophthora resistant rootstocks with Ridomil Gold EC is recommended. Mature trees in moderate to advanced stages of decline cannot be cured with Ridomil Gold EC. (3) Do not apply more than 1 1/2 gals./A of Ridomil Gold EC per year. (4) Do not make an application within 28 days of harvest, or possible illegal residues may result.

Berries

Blueberries

Use of Ridomil Gold EC will aid in the control of root rot caused by *Phytophthora* spp. when used in conjunction with good cultural practices to minimize disease problems. Ridomil Gold EC will not revitalize plants showing moderate to severe root rot symptoms.

Established Plantings: Apply 1/4 pt./1000 linear ft. of row (3.6 pts./A broadcast basis) in a 3-ft. band over the row before the plants start growth in the spring. One additional application may be made to coincide with periods most favorable for root rot development.

New Plantings: Apply 3.6 pts./A broadcast to the soil at or after the time of planting. A second application should be made to coincide with periods most favorable for root rot development. For banded applications, an 18-inch band over the row is recommended. Use the formula in the **General Information** section of the label to calculate the amount needed per acre.

Note: On new plantings, do not apply more than 0.9 gals./A broadcast during the 12 months before bearing harvestable fruit, or possible illegal residues may result.

Cranberries

Use Ridomil Gold EC as a soil application for control of *Phytophthora* root rot of cranberries caused by *Phytophthora* spp.

Apply Ridomil Gold EC at 1-1 3/4 pts./A as a broadcast soil application for control of *Phytophthora* root rot of cranberries. Three applications per crop season are recommended. Make the first application in the fall after harvest. Make the second application in the spring followed by a third application up to, but no later than, 45 days before harvest.

Apply Ridomil Gold EC using ground or chemigation equipment. Sufficient water should be used to allow movement of Ridomil Gold EC into the root zone. Use a minimum of 20 gals. of water per acre when applying ground equipment. Refer to the **Application Through Irrigation Systems** section of the label for instructions and precautions when making applications through irrigation systems.

Notes: (1) Do not apply Ridomil Gold EC to cranberries by air. (2) To avoid possible illegal residues, do not apply within 45 days before harvest, and do not apply more than 5 1/4 pts./A per growing season.

Raspberries

Ridomil Gold EC is a soil-applied systemic fungicide for use in the control of Phytophthora root rot.

Apply $\frac{1}{4}$ pt./1,000 linear ft. of row to the soil surface in a 3-ft. band over the row. Make 1 application in the spring and another in the fall after harvest. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Note: Do not apply Ridomil Gold EC within 45 days before harvest, or possible illegal residues may result.

Strawberries

Ridomil Gold EC provides control of red stele (*Phytophthora fragariae*), vascular collapse (*P. cactorum*), and leather rot (*P. cactorum*) when used as directed. Applications may be made using ground application equipment or through drip irrigation systems.

New Plantings: Apply Ridomil Gold EC at 1 pt. per treated acre in sufficient water to move the fungicide into the root zone of the plants. Make 1 application after transplanting followed by an additional application 30 days before the beginning of harvest or at fruit set. A third application may be made during the harvest season, depending on environmental conditions and disease pressure. For banded applications, use the formula in the **General Information** section of this label to determine the amount of Ridomil Gold EC needed per acre. When applying Ridomil Gold EC through drip irrigation systems, use the same amount as would be applied in a banded application to cover the root zone of the plants. Observe the precautions concerning application of Ridomil Gold EC through irrigation systems in the **General Information** section of this label.

Established Plantings: Apply Ridomil Gold EC at 1 pt. per treated acre in sufficient water to move the fungicide into the root zone of the plants. Make 1 application in the spring after the ground thaws and before first bloom. A second application may be applied after harvest in the fall. For supplemental control of leather rot, an application may be made during the growing season at fruit set. For banded applications, use the formula in the **General Information** section of this label to determine the amount of Ridomil Gold EC needed per acre. When applying Ridomil Gold EC through drip irrigation systems, use the same amount as would be applied in a banded application to cover the root zone of the plants. Observe the precautions concerning application of Ridomil Gold EC through drip irrigation systems in the **General Information** section of this label.

Notes: (1) To avoid possible illegal residues, do not use more than a total of $1\frac{1}{2}$ qts. of Ridomil Gold EC per treated acre per year. (2) For low

annual rainfall areas, a surface application of Ridomil Gold EC needs to be moved into the root zone by rainfall, overhead irrigation, or mechanical incorporation.

Citrus

Includes grapefruits, lemons, limes, oranges, tangelos, tangerines, citrus citron, kumquats, satsuma mandarin, and hybrids of these.

Use Ridomil Gold EC on citrus for control of citrus foot rot, root rot, and trunk cankers caused by *Phytophthora* spp. Ridomil Gold EC can be applied as a topical canker application and as a soil application, as a spray or through sprinkler or drip irrigation systems. If trees are on a drip irrigation system, distribute the amount of Ridomil Gold EC needed per tree (see tables) to the soil directly under the drip emitters at each tree. If there is more than one emitter per tree, distribute the total amount of Ridomil Gold EC needed among the emitters.

Note: Where nematodes are a problem, best results can be achieved if effective EPA-registered nematicides are used. Nematicides can be used in combination or in sequence with Ridomil Gold EC applications.

Precaution: For best Phytophthora control, a combination of cultural practices and resistant varieties is recommended. The use of Ridomil Gold EC is not recommended in FL for use on the highly susceptible sweet orange rootstock.

Citrus in Nurseries (AZ, CA, FL, and PR Only)

Make the first application of Ridomil Gold EC at the time of planting. Make repeat applications at 3-month intervals during the period when trees are actively growing. For banded applications, use a band wide enough to cover the root systems of the plants. Do not apply Ridomil Gold EC solutions to bare roots.

Soil Drench: Apply 1-1½ fl. oz./100 gals. of water as a drench over the row at a rate of 100-250 gals./1,000 ft. of row. The width of the drench treatment should be wide enough to cover the root systems of the plants. Follow with a ½-1 inch irrigation over the treated area.

Soil Surface Spray: Apply 1-2 qts. per treated acre in a broadcast or banded surface spray to seedbeds, liners, or bedded stock in sufficient water to obtain thorough coverage. If applications are banded, the treated area should be wide enough to cover the root systems of the plants. Follow the applications with a ½-1 inch irrigation over the treated area.

Note: Do not use Ridomil Gold EC for disease control in greenhouse nurseries.

Citrus Resets or New Plantings (AZ, CA, FL, and PR Only)

Make the first application of Ridomil Gold EC to citrus resets or new plantings at the time of transplanting. Make up to 3 additional applications per year at 3-month intervals or when root growth flushes occur.

Water Ring Drench: Mix 1-1½ fl. oz./100 gals. of water. Apply 5 gals. of the mix around the base of each tree within the watering ring.

Soil Surface Spray (AZ and CA Only): Apply 1-2 qts. per treated acre (¾-1½ fl. oz./1,000 sq. ft.) in sufficient water to obtain uniform coverage of the soil surface. Apply spray to the soil surface beneath the tree canopy or apply through irrigation water. If natural rainfall is not expected within 3 days of a soil surface application, irrigate with ½-1 inch water over the treated area. See instructions below for application through irrigation water.

Soil Surface Spray (FL and PR Only): Apply 1 qt. per treated acre (¾ fl. oz./1,000 sq. ft.) under the canopy of the tree. Applications may be made through low volume irrigation systems at the rate of ½ pt. per grove acre for trees less than 5 years old. Two to three applications per year are recommended. Applications may be made on a spring + summer, summer + fall, or spring + summer + fall schedule.

Established Plantings

Soil Application (FL and PR Only): Apply 1 pt. per treated acre to groves that have a Phytophthora propagule count of 10-20 per cubic centimeter (cc) of soil as a feeder root rot disease maintenance treatment. Applications may be made through low volume irrigation for trees 5 years or older at the rate of ½ pt. per grove acre. Two to three applications per year are recommended. Applications may be made on a spring + summer, summer + fall, or spring + summer + fall schedule. **For groves with extremely high propagule counts (above 20 per cc of soil), apply 1 qt. per treated acre for one year (2-3 applications) reduce the population.**

Soil Surface Spray (AZ and CA Only): For best results, begin Ridomil Gold EC applications during the spring root-flush period. One or two additional applications per year can be made at 3-month intervals or to coincide with flushes of root growth. Use the following table to determine the proper rate based on tree size and the number of applications per year. For applications based on broadcast rates, use Ridomil Gold EC at 1-2 qts./A (¾-1½ fl. oz./1,000 sq. ft.) when 3 applications are planned and at 3 qts./A (2¼ fl. oz./1,000 sq. ft.) when 2 applications are planned. Apply in sufficient water to provide uniform coverage or apply through irrigation water. See the following instructions for application through irrigation water.

Diameter of Tree Canopy (Ft.)	Fl. Oz. of Ridomil Gold EC Per Ten Trees	
	2 applications per yr.	3 applications per yr.
5	0.38	0.25
10	1.88	1.25
15	3.75	2.50
20	7.50	5.00

Trunk Spray for Control of Gummosis Caused by *Phytophthora* spp.:

In AZ, CA, and TX, add 1 qt. of Ridomil Gold EC to 3 gals. of water and spray the surface of the trunks using enough spray to thoroughly wet the cankers. In FL, add 1 qt. of Ridomil Gold EC to 10 gals. of water and spray the surface of the trunks using enough spray to thoroughly wet the cankers. Ridomil Gold EC may be applied up to 3 times per year.

Notes: (1) To avoid possible illegal residues, do not make trunk and soil applications to the same tree in the same cropping season. (2) Do not apply more than 1 1/2 gals. of Ridomil Gold EC per treated acre per year.

Application Through Irrigation Water (Sprinkler or Drip Irrigation Only): See comments and precautions in the **General Information** section of this label. Inject Ridomil Gold EC into the irrigation water at rates specified in the tables above.

Cole Crops

Ridomil Gold EC applied as a soil application at planting will control damping-off caused by *Pythium* spp. and basal stem rot caused by *Phytophthora* spp. Applications may be made preplant incorporated or as a soil surface spray after planting.

Preplant Incorporated Application: Apply 1-2 pts. per treated acre as a broadcast soil application in sufficient water or liquid fertilizer to provide uniform coverage and incorporate in the top 2 inches of soil. For control of *Pythium* damping-off only use 1/4-1/2 pt./A. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Surface Application: Apply 1-2 pts. per treated acre at planting in sufficient water or liquid fertilizer to provide uniform coverage. For banded applications, a 7-inch band is recommended. Use the formula in the

General Information section of this label to calculate the amount of Ridomil Gold EC needed per acre. If natural rainfall is not expected before the seeds start germinating, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the seed zone after planting with 1/2-1 inch sprinkler irrigation.

Notes: (1) Do not use Ridomil Gold EC for disease control in greenhouse or field-grown vegetable bedding plants. (2) Do not dip plants in solutions containing Ridomil Gold EC, or crop injury may occur. (3) Ridomil Gold EC may be tank mixed with Terraclor 75WP to control club root (*Plasmodiophora brassicae*) or wirestem/black root (*Corticium solani*). Before applying, observe all precautions, limitations, rates, and directions for use, including the need for incorporation on the Terraclor 75WP label.

Cotton

Seed Rots and Seedling Diseases of Cotton Caused by *Pythium* spp.

Apply 1-2 fl. oz./13,000 linear ft. of row (0.075-0.15 fl. oz./1,000 linear ft.) as an in-furrow spray in 5-15 gals. of water or liquid fertilizer at planting. Mount the spray nozzle so the spray is directed into the furrow over the seed just before the seeds are covered.

For control of *Pythium* and *Rhizoctonia* apply 2-4 qts. of Terraclor 2E or 1 1/3-2 3/4 lbs. of Terraclor 75WP per 13,000 linear ft. of row in tank mixture with Ridomil Gold EC or use labeled rates of Ridomil Gold PC.

Note: When Ridomil Gold EC is applied with Terraclor 2E or Terraclor 75WP, observe all precautions and restrictions that appear on the Terraclor 2E or Terraclor 75WP labels.

Clover

Ridomil Gold EC applied to the soil at planting will provide control of damping-off caused by *Pythium* spp. and root rots caused by *Phytophthora* spp.

Stand Establishment

Apply 1/4-1/2 pt./A as a broadcast surface spray at planting in a minimum of 20 gals. of water.

If seed was previously treated with Ridomil Gold active ingredient as a seed dressing, an application of Ridomil Gold EC at 1/4 pt./A is recom-

mended at planting. Use the higher rate (1/2 pt./A) in areas where disease pressure is expected to be heavy.

Note: To avoid possible illegal residues, do not feed green forage or cut hay for 90 days following application.

Cucurbit Vegetables

Includes balsam pear (bitter melon), Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, gherkin, edible gourds, cantaloupe, casaba, crenshaw, honeydew melon, honey balls, mango melon, muskmelon, Persian melon, pumpkin, summer squash, winter squash, watermelon, and cucurbit hybrids only.

Ridomil Gold EC applied at planting will provide control of damping-off and cottony leak caused by *Pythium* spp. Applications may be made preplant incorporated or as a soil surface spray after planting.

Preplant Incorporated Application: Apply 1-2 pts. per treated acre as a broadcast soil application in sufficient water or liquid fertilizer to provide uniform coverage and incorporate in the top 2 inches of soil. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Surface Application: Apply 1-2 pts. per treated acre at planting in sufficient water or liquid fertilizer to provide uniform coverage. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. If natural rainfall is not expected before the seeds start germinating, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the seed zone after planting with 1/2-1 inch sprinkler irrigation.

Notes: (1) Do not use Ridomil Gold EC for disease control in greenhouse or field-grown vegetable bedding plants. (2) Do not dip plants in solutions containing Ridomil Gold EC, or crop injury may occur.

Deciduous Fruits and Nuts in Orchards (Nonbearing)*

*For bearing DF&N, see **Directions for Use** under the **Apples and Stone Fruits, Walnuts, and Almonds** sections of this label.

Phytophthora Diseases

Use of Ridomil Gold EC will aid in the control of crown, collar, and root rot of deciduous fruit and nut trees caused by *Phytophthora* spp. when used in conjunction with good cultural practices and rootstocks that are most tolerant to the disease. Applications should be made before symptoms appear, especially in areas favorable for disease development. Ridomil Gold EC will not revitalize trees showing moderate to severe disease symptoms.

On new plantings, make the first application at the time of planting (See Notes below). Additional applications should be made at 3-month intervals during the time when conditions are favorable for disease development. For established plantings, make the first application in the spring before growth starts.

Apply 2 qts. per treated acre (1 1/2 fl. oz./1,000 sq. ft.) in sufficient water to obtain uniform coverage of the soil under the canopy of the trees. For banded applications, use the formula in the General Information section of this label to calculate the amount of Ridomil Gold EC needed per acre. Soil surface sprays of Ridomil Gold EC will not be effective until the fungicide is moved into the root zone by rainfall or irrigation.

Notes: (1) Unless labeled for bearing tree crops, do not apply to plantings that will bear harvestable fruit within 12 months of the last application, or possible illegal residues may result. (2) To avoid injury, do not use Ridomil Gold EC to dip or spray tree roots. Do not concentrate it around the tree trunks. (3) Do not apply to trees under stress. (4) For intense plantings (2-3 times the normal planting rate) make applications on a per area basis, i.e., per acre or 1,000 sq. ft. Do not calculate the amount of Ridomil Gold EC on a per tree basis. (5) In CA, do not apply Ridomil Gold EC to newly planted trees within 90 days of planting. (6) Do not apply more than 1 1/2 gals. of Ridomil Gold EC per treated acre per year.

Ginseng

Ridomil Gold EC applied to the soil before early spring growth followed by applications of Ridomil Gold GR (see Ridomil Gold GR label) will control *Phytophthora* root rot in ginseng caused by *Phytophthora cactorum*.

Apply Ridomil Gold EC at 3/4 pt./A as a drench in 100-400 gals. of water uniformly to the soil surface in the spring before the plants begin growing.

Note: Do not make any supplemental applications of Ridomil Gold EC.

Grasses*

*Any grass, Graminae family (either green or cured), except sugarcane and those included in the group cereal grains, that will be fed to or grazed by livestock, all enclosed pasture grasses and grasses grown for hay or silage, such as bermudagrass, bluegrass, bromegrass, or fescue.

Ridomil Gold EC applied to the soil at planting will provide control of seeding diseases caused by *Pythium* spp.

For Stand Establishment

Apply up to 1 pt./A as a broadcast surface spray at planting in a minimum of 20 gals. of water. Use 1/4-1/2 pt./A if grass seed was previously treated with a Ridomil Gold active ingredient seed treatment. Use the higher rate of 1/2-1 pt./A in areas where there has been a history of *Pythium* disease.

Note: To avoid possible illegal residues (1) Do not graze, feed green forage, or cut for hay for 60 days following application. (2) Do not apply to range grasses.

Hops

Ridomil Gold EC applied as a soil drench followed by foliar applications with Kocide® 101 or a comparable copper fungicide registered for use on hops will control downy mildew caused by *Pseudoperonospora humuli*.

Soil Drench: Apply 1/2 pt. of Ridomil Gold EC per acre of hops in a minimum of 20 gals. of water or liquid fertilizer to the soil surface over the crowns after pruning, but before training. Early application before shoots are 6 inches long is preferable.

Foliar Spray: When primary infection (spikes) persist after a soil drench treatment and/or there is the first evidence of secondary (foliar) infection, foliar sprays of Ridomil Gold EC in combination with contact copper fungicides may be used. Apply 1/2 pt. of Ridomil Gold EC per acre in a tank-mix combination with 2 lbs. of Kocide 101 (or an equivalent rate of a comparable copper fungicide registered for use on hops). Apply with ground equipment in a minimum of 50 gals. of water per acre.

Notes: To avoid possible illegal residues, (1) Do not make more than 3 applications of Ridomil Gold EC per season (1 soil drench + 2 foliar sprays), and (2) Do not make the last application within 45 days before harvest; (3) Do not apply foliar sprays of Ridomil Gold EC without a copper fungicide registered for use on hops.

24/4/3

Leafy Vegetables*

*Includes celery, garden cress, upland cress, endive, fennel, lettuce (head and leaf), parsley, rhubarb, spinach, and Swiss chard.

Ridomil Gold EC applied as a soil application will control damping-off caused by *Pythium* spp. in leafy vegetables and white rust (*Albugo occidentalis*) and downy mildew in spinach. Applications may be made banded over the row, preplant incorporated, or injected with liquid fertilizer.

Preplant Incorporated Application: Apply 1-2 pts. per treated acre as a soil application in sufficient water or liquid fertilizer to provide uniform coverage and incorporate in the top 2 inches of soil. For banded applications, a minimum of a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Surface Application: Apply 1-2 pts. per treated acre at planting in sufficient water or liquid fertilizer to provide uniform coverage. For banded applications, a minimum of a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. If natural rainfall is not expected before the seeds start germinating, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the seed zone after planting with 1/2-1 inch sprinkler irrigation.

White Rust and Downy Mildew Control (Spinach Only): In addition to the preplant incorporated or surface application described above, apply 1/4 pt. of Ridomil Gold EC per acre shanked in 21 days after planting or after the first cutting. One other application may be shanked in after the next cutting. A total of 2 supplemental applications may be used on a 21-day interval. Use sufficient mechanical or bypass agitation to keep the Ridomil Gold EC mixed with the water or fertilizer.

Notes: (1) The additional applications of Ridomil Gold EC noted above and made after each cutting by shanking the fungicide into the beds along with liquid fertilizer provide continuing control of white rust. However, white rust can only be controlled in a preventative disease control program that begins with an application of Ridomil Gold EC to the soil at planting. **If Ridomil Gold EC is not used at planting, do not use Ridomil Gold EC at any other time throughout the season.** Do not apply Ridomil Gold EC in foliar applications or make curative applications in situations where white rust infections are already established. The use of Ridomil Gold EC in curative applications greatly increases the risk of the fungus developing insensitivity to this active ingredient. The development of insensitivity will destroy the effectiveness of Ridomil Gold EC in controlling white rust. (2) Do not harvest spinach within 21 days of a Ridomil Gold EC application. (3) Do not use Ridomil Gold EC for disease

control in greenhouse or field-grown vegetable bedding plants. (4) Do not apply more than 2.75 pts. of Ridomil Gold EC per acre per growing season in spinach. (5) Do not exceed a total of 1.4 lbs. active ingredient per acre per growing season, when using a combination of Ridomil Gold EC, Ridomil Gold GR, or Ridomil Gold/Copper in spinach.

Legume Vegetables (Succulent or Dried)

Includes field beans, French beans, kidney beans, lima beans, mung beans, navy beans, pinto beans, runner beans, snap beans, wax beans, broad beans (fava beans), chickpeas (garbanzo beans), lentils, lupines (sweet, white sweet, white, and grain), garden peas, field peas, sugar peas, southern peas (blackeyed peas, crowder peas, cowpeas, catjang), and edible soybeans.

Pythium Damping-Off and Root Rot: Ridomil Gold EC applied at planting will control damping-off and root rot caused by *Pythium* spp. Applications may be made preplant incorporated, or as a soil surface spray after planting.

Preplant Incorporated Application: Apply 1/2-1 pt. per treated acre as a broadcast soil application in sufficient water or liquid fertilizer to provide uniform coverage and incorporate in the top 2 inches of soil. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Surface Application: Apply 1/2-1 pt. per treated acre at planting in sufficient water or liquid fertilizer to provide uniform coverage. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. If natural rainfall is not expected before the seeds start germinating, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the seed zone after planting with 1/2-1 inch sprinkler irrigation.

Notes: (1) Do not use Ridomil Gold EC for disease control in greenhouse or field-grown vegetable bedding plants. (2) Ridomil Gold EC may be tank mixed with Terraclor 2E or 75WP to control Rhizoctonia root and stem rot or white mold (*Sclerotinia sclerotiorum*) in snap and dry beans. Observe all precautions, limitations, rates, and directions for use on the respective Terraclor label before applying.

Onions - Dry Bulb*, Green, and Onions Grown for Seed**

*Includes garlic, onions (dry bulb), and shallots (dry bulb).

**Includes green onions, leeks, spring onions or scallions, Japanese bunching onions, green shallots, or green eschalots.

Ridomil Gold EC applied at planting will control damping-off caused by *Pythium* spp. Applications may be made preplant incorporated or as a soil surface spray after planting.

Preplant Incorporated Application: Apply 1/2-1 pt. per treated acre as a broadcast soil application in sufficient water or liquid fertilizer to provide uniform coverage and incorporate in the top 2 inches of soil. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Surface-Application: Apply 1/2-1 pt. per treated acre at planting in sufficient water or liquid fertilizer to provide uniform coverage. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. If natural rainfall is not expected before the seeds start germinating, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the seed zone after planting with 1/2-1 inch sprinkler irrigation.

Note: Do not use Ridomil Gold EC for disease control in greenhouse or field-grown vegetable bedding plants.

Papaya (Hawaii Only)

Ridomil Gold EC aids in the control of Phytophthora root rot of papaya in nurseries and in new plantings in the field.

Papaya in the Field - New Plantings: Make the first application of Ridomil Gold EC at the time of transplanting to the field or within one week of transplanting. Apply 0.88-1.75 qts./A* of soil treated (0.625-1.25 fl. oz./1,000 sq. ft.) as a soil surface spray in sufficient water to obtain thorough coverage of the soil under the canopy of the trees. After application, immediately irrigate with 1/8-1/4 inch of water. Repeat in 2-4 weeks if conditions are favorable for disease. Use the table below as a guide for treating individual trees.

Notes: To avoid possible illegal residues, (1) Do not apply more than 2 applications per year in the field to newly transplanted stock, and (2) Do not apply within 3 months of harvest.

Diameter of Tree Canopy (Ft.)	Fl. Oz. of Ridomil Gold EC Per Ten Trees
3	0.05 - 0.10
4	0.10 - 0.19
6	0.19 - 0.38
8	0.38 - 0.63

Peanuts

Ridomil Gold EC is a soil-applied systemic fungicide for use in control of seedling and pod diseases of peanuts incited by *Pythium* spp.

Seedling Diseases: Apply 1/4 pt./A of crop as an application to the seed in-furrow or in a 7-inch band at the time of planting. For in-furrow applications, position the spray so the fungicide is mixed with the soil covering the seed. Avoid spraying the seed directly with the spray solution, or crop injury may occur.

Pod Rot: Apply 1/2-1 pt./A at early pod set or pegging through overhead irrigation systems. See the **General Information** section of this label for further instructions and precautions when making applications through irrigation systems.

Notes: (1) Where pathogens other than *Pythium* spp. are present, use fungicides that control those diseases in combination with Ridomil Gold EC. (2) Where the predominant pod rot pathogens are *Pythium* spp. and *Rhizoctonia* spp.; use Ridomil Gold PC at labeled rates.

Peppers and Eggplant

Soil applications of Ridomil Gold EC will control damping-off caused by *Pythium* spp. and crown rot caused by *Phytophthora capsici*. Ridomil Gold EC must be applied to the soil before the plants are infected with *Phytophthora* to obtain satisfactory disease control.

Apply 1 pt. per treated acre at the time of planting in sufficient water (20-50 gals.) or liquid fertilizer to provide uniform coverage. If rainfall is not expected before the plants begin growth, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the root zone after planting with 1/2-1 inch of sprinkler irrigation water. For banded applications, a 12 to 16-inch band is recommended. After the initial application, 2 supplemental post-directed applications at 1 pt. per treated acre should be made at 30-day intervals. The spray should be directed at the base of the plants and cover 6-8 inches of soil on either side of the

plants. Such applications must be incorporated mechanically or by sprinkler irrigation to move the Ridomil Gold EC into the root zone. Ridomil Gold EC may be applied with liquid fertilizer shanked in as a band treatment to either side of the plant. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Precautions: (1) Ridomil Gold EC may cause some yellowing of the pepper leaves. (2) Plants already infected with Phytophthora cannot be cured with Ridomil Gold EC applications. (3) The foliar blight phase of Phytophthora cannot be controlled with foliar applications of Ridomil Gold EC. (4) Do not use Ridomil Gold EC for disease control in greenhouse or field-grown vegetable bedding plants. (5) In areas where there is a history of late Phytophthora infections, an application of another EPA-registered fungicide labeled for Phytophthora control is recommended 17-21 days following the last Ridomil Gold EC application.

Notes: To avoid possible illegal residues, (1) Do not apply within 7 days of harvest, and (2) Do not apply more than 3 pts. of Ridomil Gold EC per acre of crop per season.

Pineapple

Ridomil Gold EC, applied as a "seed piece" dip, provides effective control of heart rot disease of pineapple caused by *Phytophthora* spp.

Apply Ridomil Gold EC as a crown dip before planting at the rate of 1/2-1 pt./100 gals. of water. Use 75-100 gals. of dip solution per planted acre, depending on crown size, plant density, and dipping techniques.

Note: If there is a crop failure within one year of planting treated crowns, do not harvest plant material for animal feed.

Root and Tuber Vegetables*

Includes artichoke (Jerusalem), beet (sugar** and table), carrot, cassava, chicory, dasheen (taro), ginger, ginseng***, horseradish, parsnip, radish, rutabaga, salsify, sweet potato, tanager, turnip, and yams.

*See Notes at end of section. **Do not apply Ridomil Gold EC to potatoes.**

See separate section for **Sugar Beets.

***See separate section for **Ginseng.**

Ridomil Gold EC applied to the soil at planting will provide control of diseases caused by *Pythium* and *Phytophthora* spp. Applications may be made preplant incorporated or as a soil surface spray after planting.

Preplant Incorporated Application: Apply 1-2 pts. per treated acre as a broadcast soil application in sufficient water or liquid fertilizer to provide uniform coverage and incorporate in the top 2 inches of soil. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per dose.

Surface Application: Apply 1-2 pts. per treated acre at planting in sufficient water or liquid fertilizer to provide uniform coverage. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. If natural rainfall is not expected before the seeds start germinating, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the seed zone after planting with 1/2-1 inch sprinkler irrigation.

Notes: (1) Do not use Ridomil Gold EC for disease control in greenhouse or field-grown vegetable bedding plants. (2) To avoid development of insensitivity in the pathogen population, do not apply Ridomil Gold EC to potatoes.

Soybeans

Ridomil Gold EC is a soil-applied systemic fungicide for use in the control of *Phytophthora* root and stem rot and *Pythium* damping-off. Ridomil Gold EC may be applied broadcast, banded, or in the seed furrow before the seeds are covered. The seed furrow applications will provide more consistent results if rain is not expected before the seeds germinate.

For best results against *Phytophthora* root and stem rot, use Ridomil Gold EC with soybean varieties that have some tolerance to the races of *Phytophthora* present in the field. The higher rate of Ridomil Gold EC should be used in areas with a history of heavy *Phytophthora* damage. Under heavy late season *Phytophthora* pressure, Ridomil Gold EC may not provide complete control.

Surface Applications: For full season control, apply 1 1/4 pts. per treated acre in sufficient water or liquid fertilizer to provide uniform coverage at the time of planting. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. For early- to mid-season control, apply 3/8-3/4 pt. per treated acre.

In-Furrow Applications: For full season control, apply 0.28 fl. oz./1,000 linear ft. of row as an in-furrow spray in 5-10 gals. of water or liquid fertilizer at planting. Position the spray so the fungicide is mixed with the soil covering the seed. Avoid spraying the seed directly with the spray solution, or crop injury may occur. Use sufficient water or liquid fertilizer to provide uniform coverage. Use the following table to determine the amount of Ridomil Gold EC needed per acre based on row spacing. For early- to mid-season control, apply 0.08-0.15 fl. oz./1,000 linear ft. of row.

Suggested Rates Per Acre According to Row Spacing

Row Spacing	Linear Ft. of Soybean Row Per Acre	Fluid Ounces of Ridomil Gold EC Needed Per Acre Rate Desired		
		0.08 fl. oz.	0.15 fl. oz.	0.28 fl. oz.
38 in.	13,756	1.00	2.00	3.75
36 in.	14,520	1.13	2.25	4.00
30 in.	17,424	1.38	2.75	4.75
24 in.	21,780	1.63	3.25	6.00
20 in.	26,136	2.00	4.00	7.00

Note: Ridomil Gold EC is specific for Pythium and Phytophthora and will not control other diseases that may attack soybeans.

Stone Fruits*, Walnuts, and Almonds

*Including apricots, cherries (sweet, tart), nectarines, peaches, plums (Chickasaw, Damson, Japanese), prunes.

Use of Ridomil Gold EC will aid in the control of crown, collar, and root rot caused by *Phytophthora* spp. when used in conjunction with good cultural practices and rootstocks that are most tolerant to the disease. Ridomil Gold EC applications should be made before symptoms appear, especially in areas favorable for disease development. Ridomil Gold EC will not revitalize trees showing moderate to severe disease symptoms.

On new plantings, make the first application of Ridomil Gold EC two weeks after planting. Additional applications should be made at 2 to 3-month intervals or during periods most favorable for root, crown, or collar rot development.

For established plantings, the application should be made in the spring before the plants start growth. Additional applications should be made at 2 to 3-month intervals or to coincide with periods most favorable for root, crown, or collar rot development.

Apply 2 qts. per treated acre (1½ fl. oz./1,000 sq. ft.) in sufficient carrier to obtain thorough coverage of the soil under the canopy of the trees. Sufficient surface area should be treated in nurseries to cover the root zone of the plants. Up to 3 applications can be made per year. For banded applications, use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. Soil surface sprays of Ridomil Gold EC will not be effective until the fungicide is moved into the root zone by rainfall or irrigation.

Precautions: (1) Do not dip the roots of trees in Ridomil Gold EC solutions, spray the roots, or concentrate it around the tree trunks, or injury may occur. (2) Do not apply it to trees under stress. (3) For intense plantings (2-3 times the normal planting rate) make applications on a per area basis, i.e., per acre or 1,000 sq. ft. Do not calculate the amount of Ridomil Gold EC on a per tree basis. (4) In CA, do not apply Ridomil Gold EC to newly planted trees within 90 days of planting.

Notes: To avoid possible illegal residues, (1) Do not graze livestock in treated areas, and (2) Do not graze or feed cover crops grown in treated orchards.

Sugar Beets

Ridomil Gold EC will provide control of diseases caused by *Pythium* spp. Applications may be made preplant incorporated or as a surface spray at planting.

Preplant Incorporated Application: Apply 1-2 pts. per treated acre as a broadcast soil application in sufficient water or liquid fertilizer and incorporate in the top 2 inches of soil. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Surface Application: Apply 1-2 pts. per treated acre at planting in sufficient water or liquid fertilizer to provide uniform coverage. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. If natural rainfall is not expected before the seeds begin germinating, Ridomil Gold EC should be incorporated mechanically before planting or be moved into the seed zone after planting with ½-1 inch sprinkler irrigation.

Tobacco

Ridomil Gold EC is a soil-applied systemic fungicide for use in the field before transplanting for control of black shank (*Phytophthora parasitica*, var. *Nicotianae*) and blue mold (*Peronospora tabacina*), on all types of tobacco. For control of anthracnose and other tobacco diseases, use fungicides that control those diseases.

Notes: (1) Do not use Ridomil Gold EC for disease control in greenhouse crops or tobacco plant beds. (2) Do not dip plants in solutions containing Ridomil Gold EC, or crop injury may occur. (3) Do not use Ridomil Gold EC for disease control in floathouse, floatbed production facilities, hydroponic production, or greenhouse facility.

Field Planted Tobacco

Blue Mold: Apply Ridomil Gold EC as a broadcast soil application and incorporate in the top 2-4 inches of soil before forming beds. For flue-cured tobacco, use 1/2-1 pt. per treated acre, depending on disease pressure and length of control desired. Under low disease pressure or for early season control, use 1/2 pt. per treated acre. For burley and other tobacco types, use 1 pt. per treated acre.

For **prolonged control** of blue mold in field planted tobacco, make a supplemental application of 1/2 pt./A of crop as a soil application at lay-by or the last cultivation. Position the nozzles so that the spray is deposited under the plants and is covered by soil by the cultivator. Do not make this application if more than 1 pt./A of Ridomil Gold EC was applied prior to transplanting or if no Ridomil Gold EC was applied prior to transplanting.

Note: Do not use Ridomil Gold EC in transplant water on field tobacco because of the potential for crop injury. Do not use Ridomil Gold EC as a foliar spray to field planted tobacco.

Black Shank: Use Ridomil Gold EC as a broadcast soil application and incorporate in the top 2-4 inches of soil before forming beds. Apply Ridomil Gold EC using conventional ground application equipment in sufficient water or fertilizer to provide uniform coverage. Use the following table to determine the amount of Ridomil Gold EC needed per acre depending on the black shank severity.

Type of Tobacco	Disease Level in Field	Rate of Ridomil Gold EC Per Acre
Flue-Cured	Low to Moderate (Less than 6% Disease)	1 pt.
	High (More than 6% Disease)	1 qt.*
Burley and Other**	Low to Moderate (Less than 6% Disease)	1 qt.
	High (More than 6% Disease)	1½ qts.

*FL and GA - Use 1½ qts. per treated acre of Ridomil Gold EC in fields with heavy black shank levels (greater than 6%).

**PA - Do not use Ridomil Gold EC for black shank control.

For **prolonged** control of black shank in field planted tobacco, **one** of the following is recommended: (1) Make a preplant incorporated **and** a supplemental lay-by application (last cultivation). Apply the supplemental application at last cultivation at the rate of ½-1 pt./A as a soil treatment. Position the nozzles so that the spray is deposited under the plants and is covered with soil by the cultivator. Do not make this application if more than 1 pt./A of Ridomil Gold EC was applied at transplanting; or (2) Make a preplant incorporated **plus** 2 supplemental applications at first cultivation and last cultivation (lay-by). Apply Ridomil Gold EC at 1 pt./A just prior to transplanting **followed** by a second application of 1 pt./A at the first cultivation **followed** by a third application of 1 pt./A at lay-by or the last cultivation.

Precautions: (1) For best results against black shank, use Ridomil Gold EC with tobacco varieties that have some resistance to black shank and use crop rotation. In fields where there is a history of severe black shank, use the highest rate and plant a variety that is resistant to the race of Phytophthora present in the field. (Burley L8 hybrids are only resistant to Phytophthora Race 0.) (2) Ridomil Gold EC is not recommended for use in high black shank areas on highly susceptible flue-cured varieties such as Hicks, Virginia Gold, or White Gold. (3) Failure to adequately control nematodes in fields treated with Ridomil Gold EC may result in poor control of black shank.

No-till Tobacco: Apply Ridomil Gold EC to the field before transplanting for control of black shank and blue mold on all types of tobacco. Apply 1/2-1 pt. per treated acre as a preplant, broadcast, or banded soil application. For banded applications, use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre. A supplemental lay-by application may be made 30-35 days after planting at 1/2 pt./A. Do not make the lay-by application if more than 1 pt./A of Ridomil Gold EC was applied at transplanting or if no Ridomil Gold EC was applied at transplanting.

Tomatoes

Soil applications of Ridomil Gold EC at planting will provide control of damping-off caused by *Pythium* spp. Soil applications applied 4-12 weeks before harvest under the vines will control fruit and root rot caused by *Pythium* spp. and *Phytophthora* spp.

Damping-Off (*Pythium* spp.): Apply 1-2 pts. per treated acre in sufficient water or liquid fertilizer to provide uniform coverage at the time of planting. If rainfall is not expected before the seeds start to germinate, Ridomil Gold EC should be incorporated mechanically before planting, during the planting operation, or be moved into the seed zone after planting with 1/2-1 inch sprinkler irrigation. For banded applications, a 7-inch band is recommended. Use the formula in the **General Information** section of this label to calculate the amount of Ridomil Gold EC needed per acre.

Root and Fruit Rot (*Phytophthora* spp. and *Pythium* spp.)

To aid in the control of root and fruit rot, 1 or 2 additional applications may be made during the growing season, depending on the severity of the conditions for disease infection.

Apply 1 pt. per treated acre beginning 4-6 weeks after planting. A second application may be made as needed up to 4 weeks before harvest, but before the last irrigation. Ridomil Gold EC may be applied as a directed soil surface spray under the vines or it may be injected into the beds with liquid fertilizer. If less than the full bed is treated, use the formula in the **General Information** section to determine the amount of Ridomil Gold EC needed per acre. If Ridomil Gold EC is injected into the beds with liquid fertilizer, base calculations on a 7-inch band.

If soil surface sprays are used, the Ridomil Gold EC must be incorporated into the soil with 1/2-1 inch of rainfall or sprinkler irrigation.

Ridomil Gold EC may be applied with water or liquid fertilizer. Use the test in the **General Information** section to check for compatibility with various fertilizers.

35043

Notes: (1) To avoid possible illegal residues, do not apply more than 3 pts. per treated acre per season. (2) Keep Ridomil Gold EC suspended in the fertilizer solution with bypass or mechanical agitation. Refer to the **General Information** section for drip irrigation instructions. (3) Do not use Ridomil Gold EC for disease control in greenhouse or field-grown vegetable bedding plants.

Replanting

If replanting is necessary, additional applications of Ridomil Gold EC may be made, provided that the total amount of active ingredient in Ridomil Gold EC applied does not exceed the maximum allowed for the specific crop.

Rotation (Plantback) Restriction

Do not plant any crop which is not registered for use with the Ridomil Gold active ingredient in soil treated with this active ingredient for a period of 12 months, unless a shorter interval is specified on the following list.

Rotation Crop	Planting Time From Last Ridomil Gold EC Application
Alfalfa (including birdsfoot trefoil), Almonds, Apples, Asparagus, Avocados	0 days
Blueberries,	
Citrus,	
Clover,	
Cole Crops,	
Cotton,	
Cranberries,	
Cucurbit Vegetables	
Deciduous Fruits and Nuts*	
Eggplant	
Garlic,	
Ginseng,	
Grapes	
Grasses**	
Hops	
Leafy Vegetables (Excluding Brassica),	
Legume Vegetables (beans and peas - succulent and dried)	
Onions (dry bulb, green, and seed)	
Papaya,	
Peanuts,	
Peppers,	
Pineapples,	
Potatoes	
Raspberries,	
Root and Tuber Vegetables	
Soybeans,	
Spinach,	
Stone Fruits,	
Strawberries,	
Sugar Beets.	
Tobacco,	
Tomatoes	
Walnuts	
Cereal Grains (other than Corn)	14 days
Corn	9 months
Crops Not Intended for Food or Feed	0 days
All Other Crops Intended for Food or Feed	12 months

*These crops and other perennial crops may be planted immediately following last application of Ridomil Gold EC, provided they will not bear harvestable fruit within 12 months.

**Any grass, Gramineae family (either green or cured), except sugarcane and those included in the group cereal grains, that will be fed to or grazed by livestock, all enclosed pasture grasses and grasses grown for hay or silage, such as bermudagrass, bluegrass, brome grass, or fescue.

Storage and Disposal

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

Pesticide Disposal

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Wastes resulting from the use of this product are acutely toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

Container Disposal (For one gallon and one pint)

Do not reuse empty container. Triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

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.

Container Refilling and Disposal (For 15 Gallon)

Refer to the label on container for refilling and disposal instructions.

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 procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Precautionary Statements

Hazards to Humans and Domestic Animals

WARNING/AVISO

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed or absorbed through skin. Avoid contact with skin.

Statement of Practical Treatment

If in eyes: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes.

If on skin: Wash with plenty of soap and water. Get medical attention.

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

Note to Physician: If ingested, induce emesis or lavage stomach. Treat symptomatically.

Personal Protective Equipment

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.

Engineering Control Statements

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

User Safety Recommendations

Users should:

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

Environmental Hazards

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. Apply only as specified on this label. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

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40 of 43

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Novartis Crop Protection, Inc.
Greensboro, North Carolina 27419

- NCP 163LA (one gallon)
- NCP 163LA (one pint)
- NCP 163LA (15 gallon)

41043

(Back Cover)

Ridomil Gold® EC

FUNGICIDE

For the control of certain diseases in various crops caused by the Oomycete class of fungi

One Gallon
U. S. Standard Measure

One Pint
U. S. Standard Measure

Active Ingredient*:

(R) -2-[(2,6-dimethylphenyl)-methoxyacetyl-amino]- propionic acid methyl ester	47.6%
<u>Related compounds</u>	<u>1.4%</u>
<u>Inert Ingredients</u>	<u>51.00%</u>
Total:	100.00%

See directions for use in attached booklet

* Contains 4 lbs. Active ingredient per gallon.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to the Banner MAXX booklet labeling under "Agricultural Use Requirements" in Directions for use section for information about this standard.

EPA Reg. No. 100-801

EPA Est. 34704-MS-1

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet.

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed or absorbed through skin. Avoid contact with skin.

Statement of Practical Treatment

If in eyes: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes.

If on skin: Wash with plenty of soap and water. Get medical attention.

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

Note to Physician: If Ridomil Gold EC is ingested, induce emesis or lavage stomach. Treat symptomatically.

Environmental Hazards

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. Apply only as specified on this label. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

Physical or Chemical Hazards

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

Storage and Disposal

Container Disposal

Do not reuse empty container. Triple rinse (or equivalent), and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

See label booklet for proper disposal of pesticide wastes.

43 of 43

Chemigation

Refer to supplemental labeling in attached booklet for use directions on chemigation. Do not apply this product through any type of irrigation system, unless the supplemental labeling on chemigation is followed.

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Novartis Crop Protection, Inc.
Greensboro, North Carolina 27419

- NCP 163LA (one gallon)
- NCP 163LA (one pint)
- NCP 163LA (15 gallon)

[QUARK - RIDOMIL GOLD/RIDOMIL GOLD EC-A] - 9/97