

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (H7505C) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460

NOTICE OF PESTICIDE:

<u>x</u> Registration
Reregistration

(under FIFRA, as amended)

EPA Reg. Number:

Date of Issuance:

100-1227

APR 2 9 2005

Term of Issuance:

Conditional

Name of Pesticide Product:

Ridomil Gold/Bravo Liquid Fungicide

Name and Address of Registrant (include ZIP Code):

Syngenta Crop Protection, Inc. P.O. Box 18300

Greensboro, NC 27419-8300

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(C) provided that you:

- 1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
- 2. Make the following label change: Revise the EPA Registration Number to read, "EPA Reg. No. 100-1227".

Submit one copy of the final printed label before you release the product for shipment.

Signature of Approving Official:

Mary L. Waller, Product Manager (21)

Date:

APR 2 9 2005

page 2 EPA Reg. No. 100-1227

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

A stamped copy of the label and the product chemistry and acute toxicology reviews are enclosed for your records.

Sincerely yours,

Mary L. Waller

Product Manager (21)

Can Crabbefor

Fungicide Branch

Registration Division (7505C)

Enclosure

7505C:CGrable:cg:4/27/05

# Ridomil Gold®/Bravo® Liquid

Ridomil Gold®/Bravo® Liquid

**Fungicide** 

For control of certain diseases in potatoes

## **Ridomil Gold EC**

Active Ingredients:

 Mefenoxam (CAS No. 70630-17-0)
 49.0%

 Other Ingredients:
 51.0%

 Total:
 100.0%

## KEEP OUT OF REACH OF CHILDREN.

## **CAUTION**

EPA Reg. No. 100-801

32 fl. oz. Net Contents

# ACCEPTED

APR 2 9 2005

Under the Federal Insecticide, Fundade, and Redenticide Act, as amended, for the posticide registered under EPA Reg. No. (270 - / ) > 7

#### Bravo Weather Stik®

**Active Ingredient:** 

Chlorothalonil (tetrachloroisophthalonitrile)54.0%Other Ingredients:46.0%Total:100.0%

Contains 6.0 lbs. chlorothalonil per gallon (720 grams per liter)

#### KEEP OUT OF REACH OF CHILDREN.

#### **CAUTION**

EPA Reg. No. 50534-188

240 fl. oz. Net Contents See additional precautionary statements and directions for use inside booklet.

Following label instructions, apply the entire contents of this container to the target crop once the container is opened.

EPA Est. 34704-MS-2

SCP 801X-M2X XXXX

Total 272 fl. oz. Net Contents

## Ridomil Gold EC

	FIRST AID	
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes,</li> </ul>	
	then continue rinsing eye.	
	Call a poison control center or doctor for treatment advice.	
if swallowed	<ul> <li>Call poison control center or doctor immediately for treatment advice.</li> </ul>	
	Have person sip a glass of water if able to swallow.	
	Do not induce vomiting unless told to do so by the poison control center or doctor.	
	Do not give anything by mouth to an unconscious person.	
if on skin or	Take off contaminated clothing.	
clothing	<ul> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> </ul>	
	Call a poison control center or doctor for treatment advice.	
If inhaled	Move person to fresh air.	
	If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.	
	<ul> <li>Call a poison control center or doctor for treatment advice.</li> </ul>	
Have the product	container or label with you when calling a poison control center	
or doctor, or going	· · · · · · · · · · · · · · · · · · ·	
	HOT LINE NUMBER	
For 24 Hour Medical Emergency Assistance (Human or Animal) or		
Chemical Emergency Assistance (Spill, Leak, Fire, or Accident)		
	Call	
	1-800-888-8372	

#### **Bravo Weather Stik**

FIRST AID		
If swallowed	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>	
If on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>	
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>	
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>	

## **NOTE TO PHYSICIAN**

Persons suffering with temporary allergic skin reactions may respond to treatment with oral antihistamines and topical or oral steroids.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

#### **HOT LINE NUMBER**

For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call

1-800-888-8372

#### PRECAUTIONARY STATEMENTS

## **Ridomil Gold EC**

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes and clothing.

#### **Bravo Weather Stik**

#### Hazards to Humans and Domestic Animals

#### **CAUTION**

Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## Personal Protective Equipment (PPE)

Mixers, Loaders, Applicators and all other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of any waterproof material Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC) or viton)
- Shoes plus socks

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

#### **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 PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **Environmental Hazards**

#### Ridomil Gold EC

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 water or rinsate.

## **Groundwater Advisory Statement**

This chemical is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

#### **Bravo Weather Stik**

This product is toxic to aquatic invertebrates and wildlife. DO NOT apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment wash water or rinsate. This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

## Physical or Chemical Hazards

Do not use or store near heat or open flame.

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## **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, or pets 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.

## Ridomil Gold/Bravo Liquid

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

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

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear

**Special Eye Irritation Provisions:** This product is a severe eye irritant. Although the restricted entry interval expires after 48 hours, for the next 5 days entry is permitted only when the following safety measures are provided:

- (1) At least one container designed specifically for flushing eyes must be available in operating condition at the WPS required decontamination site intended for workers entering the treated area.
- (2) Workers must be informed, in a manner they can understand:
- that residues in the treated area may be highly irritating to their eyes
- that they should take precautions, such as refraining from rubbing their eyes, to keep the residues out of their eyes
- that if they do get residues in their eyes, they should immediately flush their eyes
  using the eyeflush container that is located at the decontamination site or using
  other readily available clean water
- how to operate the eyeflush container

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

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not use, pour, spill, or store near heat or open flame. Open dumping is prohibited.

## **Pesticide Storage**

Store in the original container. Using label instructions, apply the entire contents of this container to the target crop once the container is opened. Store in a cool place. Protect from excessive heat.

## **Pesticide Disposal**

Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

## **Container Disposal**

Do not reuse empty container. Triple rinse container (or equivalent) and then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration, or by alternative methods allowed by state and local authorities.

#### CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.

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.

#### **GENERAL INFORMATION**

Ridomil Gold/Bravo Liquid is a fungicide for the control of early blight (*Alternaria*), late blight (*Phytophthora*), pink rot, and pythium leak in potatoes. Following label instructions, apply the entire contents of this container to the target crop once the container is opened. Each container treats 10 acres of potatoes.

**Note:** Ridomil Gold active ingredient 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, Syngenta cannot assume liability for crop damage resulting from insensitive strains of fungi. If treatment is not effective following the use of Ridomil Gold/Bravo Liquid as recommended, an insensitive strain of fungi may be present. If the treatment is ineffective due to the presence of a Ridomil Gold insensitive strain of fungi, neither Ridomil Gold/Bravo Liquid 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.

THIS LABEL IS FOR FIELD USE ONLY UNLESS SPECIFIED OTHERWISE WITHIN A CROP SECTION OF THIS LABEL.

#### GENERAL PRECAUTIONS AND RESTRICTIONS

DO NOT combine Ridomil Gold/Bravo Liquid in spray tank with pesticides, surfactants or fertilizers, unless your prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use. DO NOT combine Ridomil Gold/Bravo Liquid with Dipel<sup>®</sup>, Latron B-1956<sup>®</sup> or Latron AG-98<sup>®</sup> as phytotoxicity may result from the combination when applied to the crops on this label.

This product must not be applied within 150 feet (for aerial applications) or 25 feet (for ground applications) of marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

## **Spray Drift Precautions**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or applications using dry formulations.

- 1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
- 2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

## **Aerial Drift Reduction Advisory Information**

[This section is advisory in nature and does not supercede the mandatory label requirements.]

## Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly, or under unfavorable conditions (See Wind, Temperature).

## **Controlling Droplet Size**

- **Volume** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation Orienting the nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift potential.

## **Boom Length**

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

#### Wind

Drift potential is lowest between wind speeds of 2 - 10mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential.

**Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

## **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### **Temperature Inversions**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### **MIXING INSTRUCTIONS**

Note: Slowly invert container several times to assure uniform mixture.

Prepare no more spray mixture than is required for the immediate operation. Use the entire contents of this container once the container is opened. Thoroughly clean spray equipment before using this product. Agitate the spray solution before and during application. Rinse spray tank thoroughly with clean water after each day's use and dispose of pesticide rinsate by application to an already treated area.

Ridomil Gold/Bravo Liquid Alone: Add 1/2-2/3 of the required amount of water to the spray or mixing tank. With the agitator running, add the Ridomil Gold/Bravo Liquid to the tank. Continue agitation while adding the remainder of the water. Begin application of the spray solution after the Ridomil Gold/Bravo Liquid has completely dispersed into the water. Maintain continuous agitation until all of the mixture has been sprayed.

Ridomil Gold/Bravo Liquid + Tank Mixtures: Consult your dealer or Syngenta sales representative for information concerning compatibility with other tank mix partners.

Note: When using Ridomil Gold/Bravo Liquid in mixture, any product in water-soluble packaging should be added to the tank prior to adding Ridomil Gold/Bravo Liquid. Allow water-soluble packaging to completely dissolve and the mixture product to completely disperse before adding Ridomil Gold/Bravo Liquid to the tank.

Add 1/2-2/3 of the required amount of water to the spray or mixing tank. Again, if tank mixing with any product packaged in water-soluble packets, add this product first with

the agitator running. Allow the material to completely dissolve and disperse in the mix water. Continue agitation while adding all of the contents of both chambers of the Ridomil Gold/Bravo Liquid container at once. In general, additional tank mix partners should be added in the following order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable concentrations. Always allow each tank mix partner to become fully dispersed before adding the next product. Maintain agitation while adding the rest of the water, while adding the other tank mix partners, and throughout the mixing and spraying operation.

If using Ridomil Gold/Bravo Liquid in mixture with other products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label. No label dosage rate should be exceeded and the most restrictive label precautions and limitations should be followed. Ridomil Gold/Bravo Liquid should not be mixed with any product which prohibits such mixing. Tank mixtures or other applications of products are permitted only in those states in which the products are registered.

#### **APPLICATION INSTRUCTIONS**

## Field and Row Crops

Apply Ridomil Gold/Bravo Liquid in sufficient water to obtain adequate coverage of foliage. Gallonage to be used will vary with crop and amount of plant growth. Spray volume usually will range from 20 to 150 gallons per acre (200 to 1400 liters per hectare) for dilute sprays and 5 to 10 gallons per acre (50 to 100 liters per hectare) for concentrate ground sprays and aircraft applications. Both ground and aircraft methods of application are recommended unless specific directions are given for a crop. Application through sprinkler irrigation systems is not recommended unless specific directions are given for a crop. See application and calibration instruction below.

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

Avoid spray overlap as crop injury may result.

The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler 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/Bravo Liquid 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/Bravo Liquid in the mix tank. Ridomil Gold/Bravo Liquid 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.

## Application and Calibration Techniques for Sprinkler Irrigation - Chemigation

Ridomil Gold/Bravo Liquid, 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 or moving wheel irrigation system(s). 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 apply this product through irrigation systems connected to a public water system. 'Public water system' means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, should the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source.

Always inject Ridomil Gold/Bravo Liquid into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.

Pesticide injection equipment must be fitted with a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

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

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.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. DO NOT apply when wind speed favors drift beyond the area intended for treatment.

Ridomil Gold/Bravo Liquid may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type.

## A. Center Pivot Irrigation Equipment

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

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump, of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution or run across the field, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of Ridomil Gold/Bravo Liquid for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until Ridomil Gold/Bravo Liquid has been cleared from last sprinkler head.

# B. Solid Set, Hand Move, and Moving Wheel Irrigation Equipment

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump can also be used.

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of Ridomil Gold/Bravo Liquid for acreage to be covered with water so that the total mixture of Ridomil Gold/Bravo Liquid plus water in the injection

tank is equal to the quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. No agitation should be required. Inject Ridomil Gold/Bravo Liquid at the beginning of the irrigation cycle in ½-1 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. Stop injection equipment after treatment is completed and continue to operate irrigation system until Ridomil Gold/Bravo Liquid has been cleared from last sprinkler head.

## **POTATOES**

Ridomil Gold/Bravo Liquid, when used as a foliar application in a preventive disease control program, will provide effective control of early blight, caused by *Alternaria* spp.; late blight, caused by *Phytophthora infestans*; pythium leak caused by *Pythium* spp.; and pink rot caused by *Phytophthora erythroseptica*. Make applications of Ridomil Gold/Bravo Liquid in sufficient water to obtain thorough coverage for ground applications and in a **minimum of 5 gals. of water per acre** for aerial applications.

It is recommended that this product be used within an Integrated Pest Management Program. Also, vine-kill should occur 14 days before harvest.

Late Blight and Early Blight: Use the entire contents of this container to treat 10 acres of potatoes. Begin preventive applications early in the season when conditions are favorable for disease (before infection), but no later than when the plant foliage meets within the row uniformly across the field. In states other than FL, make up to 3 applications of Ridomil Gold/Bravo Liquid at 14-day intervals. In FL only, make up to 4 applications at 14-day intervals. The labeled rate of a protectant fungicide should be applied between Ridomil Gold/Bravo Liquid applications. Following the 3-4 Ridomil Gold/Bravo Liquid applications, apply the labeled rate of a protectant fungicide on a weekly schedule through the remainder of the season.

Storage Rots: Pythium Leak (caused by *Pythium* spp.) and Pink Rot (caused by *Phytophthora erythroseptica*): For effective control of these storage rots, Ridomil Gold/Bravo Liquid should be used in conjunction with other management practices such as crop rotation. Use the entire contents of this container to treat 10 acres of potatoes. Make the first application at flowering and another one 14 days later. If the field has a history of storage rot problems, make a third application 14 days after the second application.

**Note:** If applications of Ridomil Gold/Bravo Liquid are being made for late blight control that correspond to the timing of application for storage rot control, additional applications for storage rot are not needed.

**Notes:** (1) To avoid possible illegal residues, do not apply within 14 days of harvest. (2) In states other than FL, you may make up to 3 applications of Ridomil Gold/Bravo Liquid per crop. In FL only, you may make up to 4 applications per crop. (3) If

conditions for late blight development are still favorable after making 3 applications of Ridomil Gold/Bravo Liquid, use other fungicides registered for late blight control in potatoes.

## **REPLANTING**

If replanting is necessary, additional applications of Ridomil Gold/Bravo Liquid may be made, provided that the total amount of active ingredient in Ridomil Gold/Bravo Liquid 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.

	Planting Time From
	Last Ridomil Gold/Bravo Liquid
Rotation Crop	Application
Alfalfa (including birdsfoot trefoil)	
Almonds	
Apples	
Asparagus	
Avocados	
Blueberries	
Carrot	
Citrus	
Clover	
Cole Crops	
Cotton	
Cranberries	
Cucurbit Vegetables	
Deciduous Fruits and Nuts*	
Eggplant	
Garlic	
Ginseng	
Grapes	
Grasses**	
Hops	
Leafy Vegetables (Excluding Brassica)	0 days
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
All Other Oropa Interlued for Food of Feed	I LE HIOHUIS

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

\*\*Any grass, Gramineae family (either green or cured), except the following. Do not apply to sugarcane; to any of the following that will be fed to or grazed by livestock: barley, buckwheat, corn, millet (pearl or proso), oats, popcorn, rice, rye, sorghum, teosinte, triticale, wheat, or wild rice; or to any enclosed pasture grasses or grasses grown for hay or silage such as bermudagrass, bluegrass, bromegrass, or fescue.

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