



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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Ms. Dianna Friend  
Regulatory Specialist  
GB Biosciences Corporation  
P.O. Box 18300  
Greensboro, NC 27419

APR 30 2008

Re: Notification for Minor Label Changes  
EPA Reg No.: 50534-204  
Date of Submission: April 15, 2008

Dear Ms Friend:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated, April 15, 2008, for the product Bravo® ZN. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

Please note that the Agency has issued a Pesticide Registration Notice (PR) 2007-4: Labeling Revisions Required by the Final Rule "Pesticide Management and Disposal; Standards for Pesticide Containers and Containment Statements. All labeling must be updated by August 17, 2009.

If you have questions, please call me directly on 703-205-6249 or Joyce Edwards of my staff at 703 308-5479.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

NOTIFICATION

Application for Pesticide - Section I

1. Company/Product Number 50534-204	2. EPA Product Manager Tony Kish	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Bravo® ZN	PM# 22	
5. Name and Address of Applicant (Include ZIP Code) GB Biosciences Corporation P. O. Box 18300 Greensboro, NC 27419  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

GB Biosciences Corporation respectfully submits a notification in accordance with PR Notice 98-10 for our product, Bravo ZN, EPA Reg. No. 50534-204. Please find the following changes on our highlighted label:

- Hot Line information was changed so it is consistent with our other product labels.
- Updated the warranty statement which was agreed upon by GB Biosciences Legal Department and the Office of General Counsel at EPA.
- The reference of "zinc" in the General Information section was deleted.
- "Hawaii only" phrase was deleted from our passion fruit table.
- "Specific Use Restrictions" phrase was added to the Conifers table, so it is consistent with the other tables.
- Complete address has been included.

As requested in PR Notice 98-10, one copy of the highlighted label and the EPA Form 8570-1 have been included.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
*Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per Container	If "Yes" Unit Packaging wgt.	No. per container
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 2.5 gal; bulk		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dianna Friend	Title Regulatory Specialist	Telephone No. (Include Area Code) 336-632-6390
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Dianna Friend</i>	3. Title Regulatory Specialist	
4. Typed Name Dianna Friend	5. Date April 15, 2008	

**Bravo® Zn**

**Agricultural Fungicide**

[Insert SuperWeatherStik® logo]

*Active Ingredient:*

Chlorothalonil (tetrachloroisophthalonitrile)..... 38.5%

*Other Ingredients:*..... 61.5%

Total: 100.0%

Contains 4.17 pounds chlorothalonil per gallon (500 grams per liter)

**KEEP OUT OF REACH OF CHILDREN.**

**WARNING/AVISO**

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

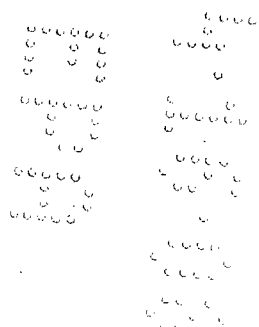
See additional precautionary statements and directions for use inside booklet.

\*Covered under U.S. Pat. No. 5,667,795

EPA Reg. No. 50534-204

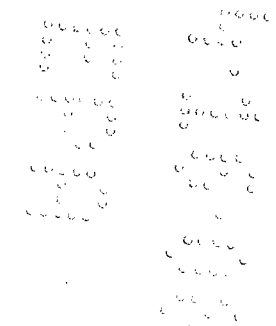
EPA Est.

\_\_\_\_\_ gallons  
Net Contents



4/30

<b>FIRST AID</b>	
<b>If inhaled</b>	<ul style="list-style-type: none"> <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>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <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>
<b>If in eyes</b>	<ul style="list-style-type: none"> <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>
<b>Note to Physician</b>	
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.	
<b>HOT LINE NUMBER</b>	
For 24 Hour Medical Emergency Assistance for Incidents Involving (Human or Animal) Exposure or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call <b>1-800-888-8372</b>	



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## PRECAUTIONARY STATEMENTS

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### Hazards to Humans and Domestic Animals

#### WARNING/AVISO

May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Do not breathe spray mist. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are made of any waterproof material. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

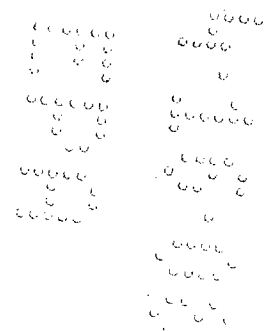
#### Mixers, Loaders, Applicators and all other handlers must wear:

- long-sleeved shirt and long pants
- chemical resistant gloves made of any waterproof material
- shoes plus socks
- NIOSH approved dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C) or a NIOSH approved respirator with any N, R, P or HE filter.

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 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

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 waters 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 ground water, 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.

### 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~~must 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 GB BIOSCIENCES CORPORATION or Seller. To the extent permitted by applicable law,

All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold GB BIOSCIENCES and Seller harmless for any claims relating to such factors.

GB BIOSCIENCES 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. To the extent permitted by applicable law: (1) This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or GB BIOSCIENCES, and (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, GB BIOSCIENCES MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL STATED ABOVE.

To the extent permitted by applicable law, in no event shall GB BIOSCIENCES or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF GB BIOSCIENCES 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 GB BIOSCIENCES OR SELLER, THE REPLACEMENT OF THE PRODUCT.

GB BIOSCIENCES 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 GB BIOSCIENCES.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Bravo Zn should be used only in accordance with recommendations on this label or in separately published GB BIOSCIENCES supplemental labeling recommendations for this product.

Do not apply this product in a way that will contact workers, 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.

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 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 12 hours, for the next 6.5 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

**[MOVED STORAGE AND DISPOSAL TO BACK OF LABEL]**

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### GENERAL INFORMATION

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Bravo Zn is an excellent disease control agent when used according to label directions



for control of a broad spectrum of plant diseases. Zinc is incorporated into this formulation as a micronutrient to provide plants with zinc required for growth.

Bravo Zn is recommended for use in programs which are compatible with the principles of Integrated Pest Management (IPM), which include the use of disease resistant crop varieties, cultural practices, pest scouting and disease forecasting systems which reduce unnecessary applications of pesticides.

Bravo Zn is effective for strategic use in programs that attempt to minimize disease resistance to fungicides. Some other fungicides which are at risk from disease resistance exhibit a single-site model of fungicidal action. Bravo Zn, with a multi-site mode of action, may be used to delay or prevent the development of resistance to single-site fungicides. Consult with your Federal or State Cooperative Extension Service representatives for guidance on the proper use of Bravo Zn in programs which seek to minimize the occurrence of disease resistance to other fungicides.

Bravo Zn can be used effectively in dilute or concentrate sprays. Thorough, uniform coverage is essential for disease control.

### **General Precautions and Restrictions**

Do not use on greenhouse-grown crops.

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.

Do not combine Bravo Zn in the 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 Bravo Zn 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 some crops on this label.

### **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  $\frac{3}{4}$  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  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

#### **Application Height**

Applications should not be made at a height greater than 10 ft. above the top of the largest plants, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### **Swath Adjustment**

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

### **Wind**

Drift potential is lowest between wind speeds of 2-10 mph. 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.

### **Sensitive Areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

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## **APPLICATION**

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

Dosage rates on this label indicate pints of Bravo Zn per acre, unless otherwise stated. Under conditions favoring disease development, the high rate specified and shortest

application interval should be used.

The required amount of Bravo Zn should be added slowly into the spray tank during filling. With concentrate sprays, pre-mix the required amount of Bravo Zn in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during spray operations.

Apply Bravo Zn in sufficient water to obtain adequate coverage of foliage. Gallonage to be used will vary with crop and amount of plant growth.

For field and row crops, spray volume usually will range from 20 to 150 gallons per acre for dilute sprays and 5 to 10 gallons per acre for concentrate ground sprays and aircraft applications.

For tree and orchard crops, apply Bravo Zn in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. For fruit and nut bearing crops, the maximum volume is 300 gallons per acre unless indicated otherwise in the specific use directions. For conifers, the maximum volume is 100 gallons per acre.

#### **Application and Calibration Techniques for Sprinkler Irrigation - Chemigation**

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set and portable (wheel move, side roll, end tow, or hand move) 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 Bravo Zn 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.

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.

Bravo Zn 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, Motorized Lateral Move and Traveling Gun Irrigation Equipment**

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.

Thoroughly mix recommended amount of Bravo Zn 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 Bravo Zn has been cleared from last sprinkler head.

**B. Solid Set and Portable (Wheel Move, Side Roll, End Tow, or Hand Move) 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 Bravo Zn for acreage to be covered with water so that the total mixture of Bravo Zn 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. Agitation is recommended. Bravo Zn can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until Bravo Zn has been cleared from last sprinkler head.

**Directions for Application**

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
Asparagus	Rust ( <i>Puccinia asparagi</i> )  Purple Spot ( <i>Pleospora herbarum</i> )  Cercospora blight ( <i>C. asparagi</i> )	2¾ to 5¾ (1.5 to 3.0)	Use water volumes of 25-50 gallons per acre. Begin applications following final harvest of spears. Repeat applications at 14-28 day intervals (the minimum re-treatment interval is 14 days), depending on disease pressure. Use the higher rate and shorter interval if disease severity begins to increase during the season or weather conditions are conducive for severe epidemics.  Apply by ground.

**Specific Use Restrictions:** Do not apply more than 17 pints Bravo Zn (9.0 lbs. a.i.) per acre during each growing season. Do not apply within 190 days (120 days in CA and AZ) of the harvest of spears in the following season.

Bean (Snap)	Rust ( <i>Uromyces appendiculatus</i> )	2 to 4¼ (1.0 to 2.25)	Use in sufficient water to obtain adequate coverage. Begin applications during early bloom stage or when disease first threatens and repeat as necessary (the minimum re-treatment interval is 7 days) to maintain control.  Apply by ground, air or chemigation.
	Botrytis blight (gray mold) ( <i>B. cinerea</i> )	4¼ (2.25)	

**Specific Use Restrictions:** Do not apply more than 17 pints Bravo Zn (9.0 lbs. a.i.) per acre during each growing season. Do not apply within 7 days of harvest.

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
<b>Beans (Dry)</b> (except soybeans) bean, adzuki bean, broad bean, dry bean, lablab bean, navy bean, kidney bean, lima bean, moth bean, mung bean, pink bean, pinto bean, tepary bean, urd bean, yardlong catjang chickpea (garbanzo) cowpea lupin, grain lupin bean, rice bean, runner bean, jackbean pea, blackeyed pea, southern	Rust ( <i>Uromyces appendiculatus</i> )  Anthracnose ( <i>Colletotrichum lindemuthianum</i> )  Downy mildew ( <i>Phytophthora nicotianae</i> )  Cercospora leaf blotch ( <i>C. cruenta</i> )  Ascochyta blight ( <i>A. phaseolorum</i> )	2 to 2½ (1.0 to 1.5)	Use in sufficient water to obtain adequate coverage. Begin applications at first onset of disease, which may occur as early as 2 to 4 weeks before flowering. Repeat applications at 7 to 10 day intervals (the minimum re-treatment interval is 7 days). For use only on beans to be harvested dry with pods removed.  Apply by ground, air or chemigation.

**Specific Use Restrictions:** Do not apply more than 11.5 pints Bravo Zn (6 lbs. a.i.) per acre during each growing season. Do not apply within 14 days before harvest.

<b>Blueberries</b>	<b>Suppression:</b>  Anthracnose (ripe rot) ( <i>C. gloeosporoides</i> )  Mummy Berry ( <i>M. vaccinicorymbosi</i> )	4¼ to 5¼ (2.25 to 3.0)	Bravo Zn should be integrated into an overall disease management strategy which includes alternation with a fungicide with a different mode of action. Diseases may only be suppressed and russetting may occur under heavy disease pressure or unfavorable environmental conditions.  Apply in sufficient water to obtain adequate coverage, normally 20-100 gallons per acre. Begin applications at budbreak (green tip) and repeat at 10-day intervals through early bloom (the minimum re-treatment interval is 10 days). Under heavy disease pressure, use the higher rate.  Apply by ground or air.
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CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
	Septoria leaf spot ( <i>Septoria albopunctata</i> )  Rust ( <i>Pucciniastrum vaccinii</i> )	4¼ to 5¾ (2.25 to 3.0)	<b>Foliar Use After Harvest</b> (after all berries are harvested): To maintain healthy leaves for the following season, apply in sufficient water to obtain adequate coverage (normally 20-100 gallons per acre). Repeat at 10-14 day intervals (the minimum re-treatment interval is 10 days).  Apply by ground or air.

**Specific Use Restrictions:** Do not apply more than 17 pints Bravo Zn (9.0 lbs. a.i.) per acre during each growing season. Do not apply after full bloom (except for foliar use after harvest) or within 42 days of harvest.

Cabbage Chinese Cabbage (tight-headed varieties only) Cauliflower Broccoli Chinese Broccoli Brussels Sprouts	Alternaria leaf spot ( <i>Alternaria</i> spp.)  Downy mildew ( <i>Peronospora parasitica</i> )	2¼ (1.125)	Use in sufficient water to obtain adequate coverage. Begin applications after transplants are set in field, or shortly after emergence of field-seeded crop, or when conditions favor disease development. Repeat at 7 to 10 day intervals (the minimum re-treatment interval is 7 days) to maintain control.  Apply by ground, air or chemigation.
	Ring spot (California only)	2¾ (1.5)	For field-seeded Brussels sprouts, begin applications at time of early sprout development or when conditions favor disease development. Repeat at 7 to 10 day intervals (the minimum re-treatment interval is 7 days) to maintain control.

**Specific Use Restrictions:** Do not apply more than 23 pints Bravo Zn (12 lbs. a.i.) per acre during each growing season. Do not apply within 7 days of harvest.

Carrot	Cercospora leaf spot ( <i>C. carotae</i> )  Alternaria leaf blight ( <i>A. dauci</i> )	2¼ to 2¾ (1.125 to 1.5)	Use in sufficient water to obtain adequate coverage. Start applications when disease threatens and repeat at 7 to 10 day intervals (the minimum re-treatment interval is 7 days) to maintain control.  Apply by ground, air or chemigation.
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**Specific Use Restrictions:** Do not apply more than 29 pints Bravo Zn (15 lbs. a.i.) per acre during each growing season. Bravo Zn may be applied the day of harvest.

Celery	Early blight ( <i>Cercospora apii</i> )  Late blight ( <i>Septoria apicola</i> )  Basal stalk rot ( <i>Rhizoctonia solani</i> )	2¾ to 4¼ (1.5 to 2.25)	Use in sufficient water to obtain adequate coverage. Start applications when transplants are set in the field and repeat at a 7 day interval as needed to maintain control (the minimum re-treatment interval is 7 days).  Apply by ground, air or chemigation.
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CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
	Suppression (7 day schedule): Pink rot ( <i>Sclerotinia sclerotiorum</i> )	4¼ (2.25)	
	Early blight ( <i>Cercospora apii</i> )  Late blight ( <i>Septoria apicola</i> )	2¼ to 2¾ (1.125 to 1.5) per 100 gal.	For celery seedbeds, apply in a spray volume of 125 gallons per acre twice weekly or as needed to maintain control. Start applications shortly after crop emergence. Use the higher rate under severe disease conditions.

**Specific Use Restrictions:** Do not apply more than 34.5 pints Bravo Zn (18 lbs. a.i.) per acre during each growing season. Do not apply within 7 days of harvest.

Corn (Sweet), Corn (Grown for seed)	Helminthosporium leaf blights  Rust ( <i>Puccinia</i> spp.)	1 1/8 to 2¼ (0.6 to 1.5)	Use in sufficient water to obtain adequate coverage. Begin applications when conditions favor disease development and repeat at a 7 day interval as required to maintain control (the minimum re-treatment interval is 7 days). Under severe disease conditions, use 2¼ to 2¾ pints Bravo Zn per acre.  Apply by ground, air or chemigation.
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**Specific Use Restrictions:** Do not apply more than 17 pints Bravo Zn (9 lbs. a.i.) per acre during each growing season. Do not apply within 14 days of harvest. Do not apply to sweet corn to be processed. Do not allow livestock to graze in treated fields. Do not ensile treated corn or use as livestock forage.

Cranberry	Fruit rots  Lophodermium leaf/twig blight ( <i>L. hypophyllum</i> )	5¾ to 9¼ (3.0 to 4.9)	Apply at early bloom and repeat at 10 to 14 day intervals (the minimum re-treatment interval is 10 days). Under severe disease conditions, use the 9¼ pints per acre rate on a 10 day schedule.  Apply by ground, air or chemigation. When applying by chemigation, use 300 gallons of water per acre through solid set systems only.
	Upright Dieback ( <i>Phomopsis vaccinii</i> )	5¾ to 9¼ (3.0 to 4.9)	Apply in sufficient water to obtain coverage of uprights and runners. Make the first application before bloom, at the time shoots begin growth in the spring. Make additional applications at 10- 14 day intervals.  Apply by ground, air or chemigation. When applying by chemigation, use 300 gallons of water per acre through solid set systems only.

**Specific Use Restrictions:** Do not apply more than 29 pints Bravo Zn (15 lbs. a.i.) per acre during each growing season. Do not apply within 50 days of harvest. Do not apply to beds when flooded or allow release of irrigation water from beds for at least 3 days following application.

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
<b>Cucurbits</b> <b>Cucumber</b> <b>Cantaloupe</b> <b>Muskmelon</b> <b>Honeydew melon</b> <b>Watermelon</b> <b>Squash</b> <b>Pumpkin</b>	Anthracnose ( <i>Colletotrichum</i> spp.)  Downy mildew ( <i>Pseudoperonospora cubensis</i> )  Target spot ( <i>Corynespora cassiicola</i> )	2¼ to 2¾ (1.125 to 1.5)	Use in sufficient water to obtain adequate coverage. Begin applications when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7 day intervals (the minimum re-treatment interval is 7 days).  Note: Spraying mature watermelons may result in sunburn of the upper surface of the fruit. Do not apply Bravo Zn to watermelons when any of the following conditions are present:
	Cercospora leaf spot ( <i>C. citrullina</i> )  Gummy stem blight /vine decline ( <i>Didymella bryoniae</i> )  Alternaria leaf blight ( <i>A. cucumerina</i> )  Alternaria leaf spot ( <i>A. alternata</i> )  Scab ( <i>Cladosporium cucumerinum</i> )  Powdery mildew ( <i>Sphaerotheca</i> only)	2¾ to 4¼ (1.5 to 2.25)	<ol style="list-style-type: none"> <li>1. Intense heat and sunlight</li> <li>2. Drought conditions</li> <li>3. Poor vine canopy</li> <li>4. Other crop and environmental conditions which may be conducive to increased natural sunburn</li> </ol> Do not combine Bravo Zn with anything except water for application to watermelons unless your prior use has shown the combination to be non-injurious to watermelons under your conditions of use.  Apply by ground, air or chemigation.

**Specific Use Restrictions:** Do not apply more than 30 pints Bravo Zn (15.75 lbs. a.i.) per acre during each growing season. Bravo Zn may be applied the day of harvest.

<b>Grasses</b> <b>Grown for</b> <b>Seed</b>	Stem rust  Leaf rust  Stripe rust  Septoria leaf spot  Glume blotch  Bipolaris and Drechslera leaf spots	1½ to 2¼ (0.75 to 1.125)	Use in sufficient water to obtain adequate coverage. Begin applications during stem elongation when conditions favor disease development. Re-apply at flag (top) leaf emergence and repeat applications at 14 day intervals (the minimum re-treatment interval is 14 days).  Apply by ground, air or chemigation.
	Selenophoma (eyespot)	1½ to 2¾ (0.75 to 1.5)	

**Specific Use Restrictions:** Do not apply more than 8.5 pints Bravo Zn (4.5 lbs. a.i.) per acre during each growing season. Do not apply within 14 days of harvest. Do not allow livestock to graze in treated areas or feed hay produced before harvest. Feeding of treated plant parts after harvest of seed is allowed.

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
Mango	Anthracnose ( <i>Colletotrichum</i> spp.)	2¾ to 5 (1.5 to 2.6)	Use a water volume of 20 to 300 gallons per acre. Begin applications at early bloom and repeat on a 7-14 day interval until early fruit development. Begin the season with the 2¾ pint rate on a 14-day interval (the minimum re-treatment interval is 7 days). If disease pressure is severe, use the higher rate and shorter interval.  Apply by ground or air.

**Specific Use Restrictions:** Do not apply more than 46 pints Bravo Zn (24 lbs. a.i.) per acre during each growing season. Do not apply within 21 days of harvest.

Mint (Indiana, Michigan and Wisconsin only)	Rust ( <i>Puccinia menthae</i> )  Septoria leaf spot ( <i>S. menthae</i> )	2 (1.0)	Use in sufficient water to obtain adequate coverage, normally 20 to 150 gallons per acre for dilute sprays and 5 to 10 gallons per acre for concentrate ground and aircraft applications. Begin applications when emerging plants are 4-8 inches high. Repeat applications at 7 to 10 day intervals to maintain control (the minimum re-treatment interval is 7 days).
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**Specific Use Restrictions:** Do not apply more than 5.75 pints Bravo Zn (3 lbs. a.i.) per acre during each growing season. Do not apply within 80 days of harvest. Do not feed fresh or extracted mint hay from treated fields to livestock.

Onion (Dry bulb) and Garlic	Botrytis leaf blight ( <i>Botrytis</i> spp.)	1½ to 4¼ (0.75 to 2.25)	Apply in sufficient water to obtain thorough coverage of tops. Bravo Zn is recommended for use with disease monitoring systems which adjust fungicide rates and frequency of application according to disease hazard. Apply as follows:			
	Purple blotch ( <i>Alternaria porri</i> )			Low Disease Hazard & Prior to Infection	Low Disease Hazard & Some Disease Present	High Disease Hazard
	<b>Suppression:</b> Botrytis neck rot					
	Downy mildew ( <i>Peronospora destructor</i> )					
			Rate per Acre	1½ pt.	2 pts.	4¼ pts.
			Frequency	10 days	7 to 10 days	7 days

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
			<p>For suppression of neck rot (<i>Botrytis</i> spp.) during storage, a minimum of three weekly applications prior to lifting, using 2 to 4¼ pints of Bravo Zn per acre, is recommended.</p> <p>The minimum re-treatment interval is 7 days.</p> <p>Apply by ground, air or chemigation.</p>

**Specific Use Restrictions:** Do not apply more than 29 pints Bravo Zn (15 lbs. a.i.) per acre during each growing season. Do not apply within 7 days of harvest.

<p><b>Onion</b> (green bunching)</p> <p><b>Leek</b></p> <p><b>Shallots</b></p> <p><b>Onion and Garlic</b> (grown for seed)</p>	<p>Botrytis leaf blight (<i>Botrytis</i> spp.)</p> <p>Purple blotch (<i>Alternaria porri</i>)</p> <p><b>Suppression:</b> Downy mildew (<i>Peronospora destructor</i>)</p>	<p>2¼ to 4¼ (1.125 to 2.25)</p>	<p>Use in sufficient water to obtain thorough coverage of tops. Begin applications prior to favorable infection periods, and repeat at 7 to 10 day intervals for as long as conditions favor disease (the minimum re-treatment interval is 7 days). Use the high rate and a 7 day schedule of applications when heavy dew or rain persist.</p> <p>Apply by ground, air or chemigation.</p>
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**Specific Use Restrictions:** Do not apply more than 13 pints Bravo Zn (6.75 lbs. a.i.) per acre during each growing season. Do not apply within 7 days of harvest on garlic. Do not apply within 14 days of harvest on green bunching onions, leeks or shallots.

<p><b>Papaya</b></p>	<p>Alternaria fruit spot (<i>A. alternata</i>)</p> <p>Anthrachnose (<i>Colletotrichum</i> spp.)</p> <p>Stem end rot (<i>A. alternata</i>, <i>Colletotrichum</i> spp.)</p>	<p>2¼ to 4¼ (1.125 to 2.25)</p>	<p>Apply with ground equipment only, in sufficient water to obtain adequate coverage of fruit and leaves. Begin treatment when conditions favor development of disease and continue treatments at 14 day intervals until weather conditions no longer favor disease development (the minimum re-treatment interval is 14 days).</p>
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**Specific Use Restrictions:** Do not apply more than 13 pints Bravo Zn (6.75 lbs. a.i.) per acre during each growing season. Bravo Zn may be applied the day of harvest.

<p><b>Parsnip</b></p>	<p>Alternaria leaf spot (<i>Alternaria</i> spp.)</p> <p>Downy mildew (<i>Plasmopara crustosa</i>)</p> <p>Anthrachnose (<i>Colletotrichum</i> spp.)</p> <p>Botrytis blight (gray mold) (<i>B. cinerea</i>)</p> <p>Bottom rot (<i>Rhizoctonia</i>)</p>	<p>2¼ to 2¾ (1.125 to 1.5)</p>	<p>Apply in sufficient water to obtain adequate coverage. Make the first application at the first sign of disease or when conditions are favorable for infection. Continue applications on a 7 to 10 day schedule (the minimum re-treatment interval is 7 days).</p> <p>Apply by ground, air or chemigation.</p>
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2/30

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
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**Specific Use Restrictions:** Do not apply more than 11.5 pints Bravo Zn (6 lbs. a.i.) per acre during each growing season. Do not apply within 10 days of harvest.

<b>Passion Fruit</b> (Hawaii only)	Alternaria fruit and leaf spot ( <i>Alternaria</i> spp.)  Anthracnose ( <i>Colletotrichum</i> spp.)  Cercospora fruit spot	2¾ (1.5)	Apply with ground equipment in sufficient water to obtain adequate coverage of fruit and leaves. Begin applications during late bloom and repeat at 14 day intervals until weather conditions no longer favor disease development (the minimum re-treatment interval is 14 days).
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**Specific Use Restrictions:** Do not apply more than 14.5 pints Bravo Zn (7.5 lbs. a.i.) per acre during each growing season. Do not apply within 7 days of harvest.

<b>Peanut</b>	Early leaf spot ( <i>Cercospora arachidicola</i> )  Late leaf spot ( <i>Cercosporidium personatum</i> )  Pepper spot ( <i>Leptosphaerulina crassiasca</i> )  Rust ( <i>Puccinia arachidis</i> )  Web blotch ( <i>Phoma arachidicola</i> )	1½ to 2¼ (0.75 to 1.125)      2¼ (1.125)	Apply in sufficient water for coverage when leaf wetness first occurs or 30 to 40 days after planting; repeat at 14 day intervals (the minimum re-treatment interval is 14 days). When conditions favor late leaf spot or when rust or web blotch occur, apply 2¼ pints Bravo Zn per acre at 14 day intervals for the remainder of the season.  Apply by ground, air, or chemigation. If applying by chemigation, use 2¼ pints Bravo Zn per acre. It is recommended to alternate chemigation applications with ground or aerial applications.
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**Specific Use Restrictions:** Do not apply more than 17 pints Bravo Zn (9 lbs. a.i.) per acre during each growing season. Do not apply within 14 days of harvest. Do not allow livestock to graze in treated areas. Do not feed hay or threshings from treated fields to livestock.

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
Potato	Late blight ( <i>Phytophthora infestans</i> )	1 1/8 (0.6)	Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 5 to 10 day intervals (the minimum re-treatment interval is 5 days).
	Early blight ( <i>Alternaria solani</i> )	- then -	
	Botrytis vine rot ( <i>B. cinerea</i> )	1½ to 2¼ (0.75 to 1.125)	Begin applying the higher label rates at 5 to 10 day intervals when any one of the following events occur:  <ul style="list-style-type: none"> <li>• Vines close within the rows</li> <li>• Late blight forecasting measures 18 disease severity values (DSV)</li> <li>• The crop reaches 300 P-days</li> </ul> Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe.  Apply by ground, air, or chemigation. Do not exceed a 10 day interval between applications when using chemigation.
	Black dot ( <i>Colletotrichum coccodes</i> )		

**Specific Use Restrictions:** Do not apply more than 21.5 pints of Bravo Zn (11.25 lbs. a.i.) per acre during each growing season. Do not apply within 7 days of harvest.

Soybean	Anthrachnose ( <i>Colletotrichum truncatum</i> )		Apply in sufficient water to obtain complete coverage, using at least five gallons of water per acre for aerial application. Use the three application program in areas having a history of moderate to severe disease intensity. The minimum re-treatment interval is 14 days.  Apply by ground, air, or chemigation.
	Diaporthe pod and stem rot ( <i>D. phaseolorum</i> )		
	Frogeye leaf spot ( <i>Cercospora sojina</i> )	2¼ to 3¼ (1.125 to 1.7)	<b>Two application program:</b> For determinate varieties, make the first application at R3 stage (early pod set) and the second application at R5 (seed formation). For indeterminate varieties, make the first application when largest pods are 1-1¼ inches in length. Make the second application 14 days later.
	Purple seed stain ( <i>C. kikuchii</i> )		
	Cercospora leaf blight ( <i>C. kikuchii</i> )		<b>Three application program:</b> For determinate varieties, make the first application at the beginning of flowering (R1), the second at early pod set (R3), and the third at beginning of seed formation (R5). For indeterminate varieties, make the first application one week after first flowering and continue applications at 14 day intervals.
	Septoria brown spot ( <i>S. glycines</i> )	1½ to 2¾ (0.75 to 1.5)	
<b>Suppression:</b> Rust ( <i>Phakopsora pachyrhizi</i> )			

CROP	DISEASES (Pathogen)	Pts. Product/A (lbs. a.i./A)	APPLICATION DIRECTIONS
	Stem canker ( <i>Diaporthe phaseolorum</i> )	1½ (0.75)	Apply in 10 to 20 gallons of water per acre, as a band treatment directing spray to provide coverage of entire plant. Make the first application at time of emergence of the second trifoliolate leaves (V2). If conditions favor stem canker disease make a second and third application. Make all applications at 14 day intervals.

**Specific Use Restrictions:** Do not apply more than 8.5 pints Bravo Zn (4.5 lbs. a.i.) per acre during each growing season. Do not apply within 6 weeks of harvest. Do not feed hay or threshings from treated fields to livestock.

Tomato	FOLIAGE  Early blight ( <i>Alternaria solani</i> )  Late blight ( <i>Phytophthora infestans</i> )  Gray leaf spot ( <i>Stemphyllium botryosum</i> )  Gray leaf mold ( <i>Fluvia fluva</i> ; <i>Cladosporium</i> )  Septoria leaf spot ( <i>S. lycopersici</i> )  Target spot ( <i>Corynespora cassiicola</i> )	2 to 2¾ (1.0 to 1.5)	Apply in sufficient water to obtain adequate coverage. Begin applications when dew or rain occur and disease threatens. Apply on a 7-10 day interval for foliage diseases. For fruit diseases, begin at fruit set and apply on a 7-14 day interval. Use the highest rate and shortest interval specified when disease conditions are severe. The minimum re-treatment interval is 7 days.  Apply by ground, air, or chemigation.
	FRUIT  Anthracnose ( <i>Colletotrichum</i> spp.)  Alternaria fruit rot (black mold) ( <i>A. alternata</i> )  Botrytis gray mold ( <i>B. cinerea</i> )  Late blight fruit rot ( <i>P. infestans</i> )  Rhizoctonia fruit rot ( <i>R. solani</i> )	2¾ to 4 (1.5 to 2.1)	

**Specific Use Restrictions:** Do not apply more than 28.5 pints Bravo Zn (15 lbs. a.i.) per acre during each growing season. Bravo Zn may be applied the day of harvest.

### Tree and Orchard Crops

Apply Bravo Zn in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. For fruit and nut bearing crops, the maximum volume is 300 gallons per acre unless indicated otherwise in the specific use directions. For conifers, the maximum volume is 100 gallons per acre.

Application with ground equipment is preferable to aerial application because ground applications generally give better coverage of the tree canopy. If application with ground equipment is not feasible, Bravo Zn may be applied with aircraft using at least 20 gallons of spray per acre. The minimum volume for application by aircraft to forest stands and Christmas trees is 10 gallons per acre.

When concentrate sprays are used or when treating non-bearing or immature trees, the lower rate of Bravo Zn listed may be used. Do not allow livestock to graze in treated areas.



CROP	DISEASES (Pathogen)	Pts. Product PER (lbs. a.i. per)		APPLICATION DIRECTIONS
		Acre	100 gal.*	
Almonds	Blossom blight/brown rot ( <i>Monilinia</i> spp.)	5¾ (3.0)	2 (1.0)	Use water volumes of 20-300 gallons per acre. For blossom blight, begin application at popcorn (pink bud) and follow with an application at full bloom. If weather is still conducive for disease development, another application may be made at petal fall.  For control of shothole, make an application in the autumn at leaf fall. In the spring, make the first application at budbreak, followed by an application at shuck split to control nut infections and to control scab.  Apply by ground or air.
	Shothole ( <i>Wilsonomyces carpophilus</i> )			
	Scab ( <i>Venturia carpophila</i> )			

**Specific Use Restrictions:** Do not apply more than 36 pints Bravo Zn (18.75 lbs. a.i.) per acre during each growing season (leaf fall through shuck split). Do not apply within 150 days of harvest.

Filberts (Hazelnuts)	Eastern filbert blight ( <i>Anisogramma anomala</i> )	5¾ (3.0)	2 (1.0)	Use a water volume of 20 to 300 gallons per acre. Begin applications at the onset of disease or when weather conditions favor disease development. Make applications on a 14-28 day schedule, using the shorter interval under heavy disease pressure (the minimum re-treatment interval is 14 days).
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**Specific Use Restrictions:** Do not apply more than 17 pints Bravo Zn (9 lbs. a.i.) per acre during each growing season. Do not apply within 120 days of harvest. Do not apply through irrigation. Do not apply with oils, other pesticides, surfactants or fertilizers. Do not apply within one week of an oil-based pesticide application.

Peach Nectarine Apricot Cherry Plum Prune	Leaf curl ( <i>Taphrina deformans</i> )  Shot hole ( <i>Wilsonomyces carpophilus</i> )	4½ to 6 (2.3 to 3.1)	1½ to 2 (0.75 to 1.0)	For best control of both diseases, apply at leaf fall in late autumn, using sufficient water and proper sprayer calibration to obtain uniform coverage. When conditions favor high disease levels, use the high rate of application and apply once or twice more in mid to late winter before budswell. If the leaf fall application is not practical, application of Bravo Zn for control of leaf curl may be made at any time prior to budswell the following spring. Where shothole occurs, also apply at budbreak to protect newly emerging leaves and at shuck split to prevent fruit infections.  Apply by ground or air.
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26  
36

CROP	DISEASES (Pathogen)	Pts. Product PER (lbs. a.i. per)		APPLICATION DIRECTIONS
		Acre	100 gal.*	
	Lacy (russet) scab (plum/prune)  Brown rot blossom blight <i>Monilinia</i> spp.	4½ to 6 (2.3 to 3.1)	1½ to 2 (0.75 to 1.0)	Make one application at popcorn (pink, red or early white bud) and a second application at full bloom. If weather conditions favor disease development, make an additional application at petal fall.
	Cherry leaf spot ( <i>Blumeriella jaapii</i> )  Scab ( <i>Cladosporium carpophilum</i> )  Black knot (cherry, plum) ( <i>Apiosporina morbosa</i> )	4½ to 6 (2.3 to 3.1)	1½ to 2 (0.75 to 1.0)	In addition to the bloom application listed above, make one application at shuck split. Do not apply Bravo Zn after shuck split and before harvest. If additional disease control is needed before harvest, use another registered fungicide.  For control of cherry leaf spot after harvest, make one application to foliage within 7 days after fruit is removed. In orchards with a history of high leaf spot incidence, make a second application 10-14 days later.  Apply by ground or air.

**Specific Use Restrictions:** Do not apply more than 29.5 pints Bravo Zn (15.5 lbs. a.i.) per acre during each growing season. Bravo Zn may be applied the day of harvest. The minimum re-treatment interval is 10 days.

<b>Pistachio</b>	Botryosphaeria blight ( <i>B. dothidea</i> )  <b>Suppression:</b> Alternaria late blight ( <i>A. alternata</i> )	8½ (4.5)	4¼ (2.25)	Use a water volume of 20 to 200 gallons per acre. Make the first application at the beginning of the blossom period followed by an application at full bloom. Make additional applications as required on a 28-day schedule. (The minimum re-treatment interval is 28 days). For Septoria and Botrytis, use the higher rate if disease pressure is severe.  NOTE: Use of this product may result in speckling or reddening of the fruit hull (epicarp). This effect is superficial and has not resulted in any change in nut quality.  Apply by ground or air.
	Septoria leaf spot ( <i>S. pistacina</i> )  Botrytis blight ( <i>B. cinerea</i> )	5¾ to 8½ (3.0 to 4.5)	2¾ to 4¼ (1.50 to 2.25)	

**Specific Use Restrictions:** Do not apply more than 43 pints Bravo Zn (22.5 lbs. a.i.) per acre during each growing season. Do not apply within 14 days of harvest.

CROP	DISEASES (Pathogen)	Pts. Product PER (lbs. a.i. per)		APPLICATION DIRECTIONS
		Acre	100 gal.*	
Conifers (pines, spruces)	Swiss needlecast ( <i>Phaeocryptopus gaeumannii</i> )	4 to 8 (2.1 to 4.125)	4 to 8 (2.1 to 4.125)	<b>Single application technique:</b> In Christmas tree plantations or forest stands, make one application in the spring when new shoot growth is ½ to 2 inches in length.
	Scleroderris canker (pines) ( <i>Gremmeniella abietina</i> )	2¼ to 4 (1.125 to 2.1)	2¼ to 4 (1.125 to 2.1)	
	Swiss needlecast ( <i>P. gaeumannii</i> )			
	Sirococcus tip blight ( <i>S. conigenus</i> )	2¾ to 5 (1.5 to 2.6)	2¾ to 5 (1.5 to 2.6)	
	Rhizosphaera needlecast (spruces) ( <i>Rhizosphaera spp.</i> )	8 (4.125)	8 (4.125)	
	Scirrhia brown spot (pines) ( <i>Mycosphaerella dearnessii</i> )			
	Cyclaneusma and Lophodermium needlecasts (pines)	4 to 8 (2.1 to 4.125)	4 to 8 (2.1 to 4.125)	Apply in early spring prior to budbreak. Repeat applications at approximately 6 to 8 week intervals, until spore release ceases in late fall. Apply monthly during periods of frequent rainfall, and where Lophodermium infections occur during dormancy (Pacific Northwest). During drought periods, applications may be suspended, then resumed upon next occurrence of needle wetness.
Rhabdocline needlecast (Douglas-fir)	2¼ to 4 (1.125 to 2.1)	2¼ to 4 (1.125 to 2.1)	Apply at budbreak and repeat at 3 to 4 week intervals until needles are fully elongated and conditions no longer favor disease development. In plantations of mixed provenance, or when irregular budbreak occurs, apply weekly until all trees have broken bud, then every 3 to 4 weeks as specified above. In nursery beds, use the high rate on a 3 week schedule.	

CROP	DISEASES (Pathogen)	Pts. Product PER (lbs. a.i. per)		APPLICATION DIRECTIONS
		Acre	100 gal.*	
	Botrytis seedling blight  Phoma twig blight	2¼ to 4 (1.125 to 2.1)	2¼ to 4 (1.125 to 2.1)	Begin applications in nursery beds when seedlings are 4 inches tall and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day intervals as long as disease favorable conditions persist.
	Autoecious needle rust (Weir's cushion) (spruce)	8 (4.125)	8 (4.125)	Begin applications when 10% of buds have broken and twice thereafter at 7-10 day intervals.

**Specific Use Restrictions:** Do not apply more than 31.5 pints Bravo Zn (16.5 lbs. a.i.) per acre during each growing season. The minimum re-treatment interval for established trees is 21 days. The minimum re-treatment interval in nursery beds is 7 days.

\*Volumetric rates to be used only with full dilute spray volume specified on this label for tree and orchard crops.

**MUSHROOMS:** Verticillium brown spot and dry bubble - Apply 4 to 8 fl. oz. of Bravo Zn per 1,000 sq. ft. of mushroom bed. Apply as a drench to the mushroom bed surface in at least 12.5 gallons of water per 1,000 sq. ft. of mushroom bed. Make two applications. Apply the high rate (8 fl. oz.) of Bravo Zn in the first application and the low rate (4 fl. oz.) of Bravo Zn in the second application. The first application should be made within two days of top-dressing the spawn-colonized mushroom compost with a casing layer. The second application should be made at pinning. Do not apply within 5 days of first harvest. Make no more than two applications per cropping cycle. Do not apply more than 12 fl. oz. of Bravo Zn per cropping cycle.

## STORAGE AND DISPOSAL

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

### Pesticide Storage

Store in a cool place. Protect from excessive heat.

### Pesticide Disposal

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

### Container Disposal Plastic Containers

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

**Returnable Refillable Containers**

If Bravo Zn is packaged in a returnable refillable container, then, after use, do not rinse container. The contents of this container cannot be completely removed by cleaning. Return container intact to point of purchase.

This container must only be refilled with Bravo Zn. Refilling with materials other than Bravo Zn will result in contamination and may weaken container. Do not REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Before refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn threads on closure devices. Check for leaks after refilling and before transport. Do not refill or transport a damaged or leaking container.

**Bulk and Minibulk Containers**

Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions.

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

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Latron B-1956<sup>®</sup> and Latron AG-98<sup>®</sup> are trademarks of Dow AgroSciences LLC

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For non-emergency (e.g., current product information), call  
Syngenta Crop Protection at 1-800-334-9481.

GB Biosciences Corporation

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# GB BIOSCIENCES™ CORPORATION

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## FEDERAL EXPRESS

April 15, 2008

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

Attention: Ms. Linda Arrington

**SUBJECT: BRAVO® ZN  
EPA REG. NO. 50534-204  
NOTIFICATION**

Dear Ms. Arrington:

GB Biosciences Corporation respectfully submits a notification in accordance with PR Notice 98-10 for our product, Bravo ZN, EPA Reg. No. 50534-204.

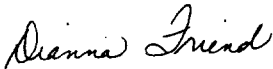
Please find the following changes on our highlighted label:

- Hot Line information was changed so it is consistent with our other product labels.
- Updated the warranty statement which was agreed upon by GB Biosciences Legal Department and the Office of General Counsel at EPA.
- The reference of "zinc" in the General Information section was deleted.
- "Hawaii only" phrase was deleted from our passion fruit table.
- "Specific Use Restrictions" phrase was added to the Conifers table, so it is consistent with the other tables.
- Complete address has been included.

As requested in PR Notice 98-10, one copy of the highlighted label and the EPA Form 8570-1 have been included.

If you have any questions, please contact me at 336-632-6390.

Sincerely,



Dianna Friend  
Regulatory Specialist

Enclosures

cc: Adora Clark, Ph.D. – Regulatory Product Manager, Syngenta

