

55146-115

10/28/2013

11/23



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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Ms Danielle A. Larochelle
Nufarm Americas Inc. AGT Division
c/o Nufarm Americas, Inc
4020 Aerial Center Parkway, Suite 101
Morrisville, NC 27560

OCT 28 2013

Subject: Notification for Alternate Brand Name per PRN 98-10
Submission date: 9/18/13
Product Name: Champ 30 DP
EPA Reg. No. 55146-115
Decision Number 483512

Dear Ms Larochelle:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10. The Registration Division (RD) has conducted a review of this request for applicability under PRN 98-10 and finds that the action(s) requested falls within the scope of PRN-98-10.

The Alternate Brand Name **Champion Fungicide/Bactericide** dated 9/18/13 is "acceptable" and will be placed in the regulatory file.

If you have questions concerning this letter, please call Banza Djapao at 703-305-7269 or you may call me at 703-308-9443.

Sincerely,

A handwritten signature in black ink that reads "Banza Djapao for".

Tony Kish
Product Manager 22
Fungicide Branch
Registration Division (7504P)

NOTIFICATION

Please read instructions on reverse before completing form.

Form Approved, OMB No. 2070-0060, Approval expires 05-31-98

EPA United States Environmental Protection Agency Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other:	OPP Identifier Number
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Application for Pesticide - Section I

1. Company/Product Number 55146-115	2. EPA Product Manager Tony Kish	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) CHAMP 30 DP	PM# 22	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Americas Inc. AGT Division C/O Nufarm Americas Inc., Agent for Nufarm Americas Inc. AGT Division 4020 Aerial Center Parkway, Suite 101 Morrisville, NC 27560 <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 label 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.)

Notification per PR Notice 98-10: Addition of the alternate brand name "Champion** Fungicide/Bactericide".

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

CONTACT: Danielle Larochelle, Nufarm Americas Inc, 4020 Aerial Center Parkway, Suite 101, Morrisville, NC 27560. Tel: 919-379-2530. Email: danielle.larochelle@us.nufarm.com

Section - III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes" Unit Packaging wgt. No. per container	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes" Package wgt. No. per container	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input checked="" type="checkbox"/> Paper <input type="checkbox"/> Other (Specify):
*Certification must be submitted			
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) Retail Container 8 lb, 20 lb, 30 lb	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 checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input checked="" type="checkbox"/> Other _____ Crack and Peel <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 Danielle A. Larochelle	Title Registration Manager	Telephone No. (Include Area Code) (919) 379-2530
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.		5. Date Application Received (Stamped)
2. Signature 	3. Title Registration Manager	
4. Typed Name Danielle A. Larochelle	4. Date September 18, 2013	

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NUFARM AMERICAS INC.
4020 Aerial Center Parkway, Suite 101
Morrisville, NC 27545
Phone: (919) 379-2510 ■ Fax: (919) 467-5923

September 18, 2013

9/23

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

[PM: Mr. Tony Kish, PM 22]

Dear Reviewer:

**Subject: Champ 30 DP – EPA Reg. No. 55146-115
Notification per PR Notice 98-10 – Addition of Alternate Brand Name**

In accordance with PR Notice 98-10, Nufarm Americas Inc. is notifying the Agency of the addition of the alternate brand name "Champion⁺⁺ Fungicide/Bactericide" to the record for Reg. No. 55146-115. The manufacturer's address was also updated on the first page of the label.

The following information is enclosed in support of this action:

- Completed Application for Pesticide Registration (Form 8570-1).
- Certification with Respect to Label Integrity form.
- Five (5) copies of the proposed label including one copy with changes marked.
- CD containing an electronic copy of the label.

If you need additional information, please contact me by phone at (919) 379-2530 or by email at danielle.larochelle@us.nufarm.com.

Sincerely,

Danielle A. Larochelle
Registration Manager

Faint circular stamp or logo in the bottom right corner.

4/23

Champ[®] 30 DP

AGRICULTURAL FUNGICIDE / BACTERICIDE

[Alternate Brand Name: ChampION⁺⁺ Fungicide/Bactericide]

ACTIVE INGREDIENT:

Copper Hydroxide* (CAS No. 20427-59-2) 46.1%

OTHER INGREDIENTS: 53.9%

TOTAL: 100.0%

*Metallic Copper Equivalent 30.0%

**KEEP OUT OF REACH OF CHILDREN
CAUTION / PRECAUCION**

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 INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 55146-115
EPA EST. NO.

Manufactured For
NUFARM AMERICAS INC.
AGT DIVISION
11901 S. Austin Avenue
Alsip, IL 60803



NOTIFICATION

OCT 28 2013

NET CONTENTS: _____ Lbs. (_____ Kg)

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

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid breathing dust. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

Mixers, loaders, applicators, and other handlers must wear the following:

- protective eyewear
- long-sleeved shirt and long pants
- shoes plus socks
- chemical-resistant gloves (such as Natural Rubber, Selection Category A)

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. **DO NOT** reuse them.

Engineering Controls Statement

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:	
<ul style="list-style-type: none"> • Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. • Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. • Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. 	

FIRST AID	
IF INHALED	<ul style="list-style-type: none"> • 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. • Call a poison control center or doctor for further treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT give anything by mouth to an unconscious person.
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

DO NOT apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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, shoes plus socks, chemical-resistant gloves, and protective eyewear.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard (WPS) for agricultural pesticides 40 CFR part 170. The Worker Protection Standard (WPS) applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

DO NOT enter or allow others to enter until sprays have dried.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size** Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed DO NOT apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition (approximately 3 to 10 mph), and there are no sensitive areas within 250 feet downwind.

Temperature Inversions If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. **DO NOT** make applications into areas of temperature inversions or stable atmospheric conditions.

Other State and Local Requirements Applicators must follow all state and local pesticide drift requirements regarding application of copper compounds. Where states have more stringent regulations, they must be observed.

Equipment All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Additional requirements for aerial applications:

- The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
- Release spray at the lowest height consistent with efficacy and flight safety. **DO NOT** release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
- When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

Additional requirements for ground boom application:

DO NOT apply with a nozzle height greater than 4 feet above the crop canopy."

FROST INJURY PROTECTION: Bacterial Ice Nucleation Inhibitor: Application of this product made to all crops listed on this label at rates and stages of growth indicated below just prior to anticipated frost conditions will afford control of ice nucleating bacteria (*Pseudomonas Syringae*, *Erwina Herbicola* and *Pseudomonas Fluorescens*) and may therefore provide protection against light frost. Use higher rates when bacterial infection is severe. Not recommended in those geographical areas where weather conditions favor severe frost.

PRODUCT INSTRUCTIONS AND USE PRECAUTIONS

This product can be used with all types of spray equipment. The volume per acre will differ depending on the specific crop and the equipment used. Use this product as per instructions on this label.

MIXING INSTRUCTIONS: Proper mixing of this product with water requires use of a spray tank equipped with agitation.

Mixing Order

1. **Water:** Begin by agitating a thoroughly clean sprayer tank containing one-half the required amount of clean water.
2. **Agitation:** Maintain constant agitation throughout mixing and application.
3. **Inductor:** If an inductor is used, rinse it thoroughly after each application. Add **CHAMP 30 DP** at a slow rate to prevent system and/or port blockage.
4. **CHAMP 30 DP:** Slowly add the required amount of this product to the sprayer tank.
5. **Remaining Quantity of Water:** Slowly add the remaining volume of clean water.
6. **Additives:** Add any tank mix partners last. Make sure that **CHAMP 30 DP** is thoroughly mixed and dispersed before addition of additives. If you do not have previous experience with **CHAMP 30 DP** and additive mixtures, conduct a small-jar test to confirm compatibility of tank mixtures prior to full scale use. Follow the most restrictive label limitations for tank mix additives.

Maintain constant agitation during application.

APPLYING SPRAY MIXTURE: The directions given under each crop are for applying dilute spray mixture unless otherwise shown. The amount of this product applied per acre in concentrate and aerial sprays must be the same as the amount applied per acre in dilute sprays. The required amount must be mixed with enough water to thoroughly cover the crop with spray mixture and is to be applied to the point of runoff. The volume of water needed will depend upon the spray equipment used and the size of the crop being sprayed. Read the information below about applying dilute, concentrate, and aerial sprays.

APPLYING DILUTE HIGH-VOLUME SPRAYS: On Field and Vegetable Crops, apply no less than 20 gallons spray mixture per acre. On Small Fruits and Vines, apply no less than 150 gallons spray mixture per acre. On Tree Crops, apply no less than 400-800 gallons spray mixture per acre. For all other uses, apply no less than 100 – 150 gallons spray mixture per acre.

APPLYING CONCENTRATE GROUND SPRAYS: On Small Fruits and Vines, apply no less than 50 gallons spray mixture per acre. On Tree Crops, apply no less than 50 – 100 gallons spray mixture per acre. For all other uses, apply no less than 30 – 50 gallons spray mixture per acre. **NOTE:** If the application equipment used is capable of low volumes, the spray mix volumes specified above may be decreased as long as the volume applied is within the specifications for the equipment and thorough coverage can be obtained.

APPLYING AERIAL SPRAYS: On Field and Vegetable Crops, apply no less than 3 gallons spray mixture per acre. On Small Fruits and Vines, apply no less than 5 gallons spray mixture per acre. On Tree Crops, apply no less than 10 gallons spray mixture per acre. For all other uses, apply no less than 10 gallons spray mixture per acre.

NOTES:

- This product may be reactive on metal and masonry surfaces such as galvanized roofing. Avoid contact with metal surfaces. **DO NOT** spray on cars, houses, lawn furniture, etc.
- **DO NOT** tank mix this product with Aliette® fungicide unless appropriate precautions have been taken to buffer the spray solution or severe phytotoxicity may result.
- This product should not be applied in a spray solution having a pH of less than 6.5 as phytotoxicity may occur.
- Environmental conditions such as extended periods of wet weather, acid rain, etc. which alter the pH of the leaf surface may affect the performance of this product resulting in possible phytotoxicity or loss of effectiveness.
- Reduced effect on pests or crop injury may result from tank mixing this product especially where several products are involved. Unless recommended on this label or by state/local expert, or the user has small scale direct experience, tank mixing should not be undertaken.
- Agricultural chemicals may be reactive with soft metals and some synthetic materials such as plastics, rubbers, etc. When working with equipment containing these materials the equipment must be thoroughly flushed with clean water after each day's use.

CHEMIGATION APPLICATION

Apply this product only through center pivot, motorized lateral move, end tow, traveler, big gun, plastic solid set, or plastic hand move sprinkler irrigation systems that do not contain aluminum components. **DO NOT** apply this product through any other type of irrigation system unless specifically set forth above or as may be specified in the future as additional systems not containing aluminum components come into use.

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.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

DO NOT connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

Chemigation Systems Connected to Public Water Systems

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent, in the water supply line upstream from the point of pesticide introduction.

As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. For nonpublic water sprinkler chemigation systems, the system must contain a functional checkvalve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.

- 3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown.
- 5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. For non-public water sprinkler chemigation systems, the irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7. **DO NOT** apply when windspeed favors drift beyond the area intended for treatment.

For all chemigation systems, use a pesticide supply tank equipped with a means for continuous agitation either by recirculation or a mechanical agitator. Charge the supply tank with the appropriate amount of water and add the pesticide slowly followed by any sticker-spreaders, insecticides, nutrients, etc. Observe all precautions and limitations on the label of all products used in the mixtures. For fixed position irrigation systems such as center pivot, big gun, etc., apply the pesticide towards the end of the irrigation period. Exact timing will depend on the desired pesticide application rate and calibration of the system. For moving systems, the pesticide should be applied continuously. In all cases, thorough coverage of the crop should be achieved.

NOTE: IRRIGATION SYSTEMS AND ASSOCIATED PIPING SHOULD BE THOROUGHLY FLUSHED WITH CLEAN WATER FOLLOWING APPLICATION OF COPPER BASED FUNGICIDES. FLUSHING MUST BE DONE IN A MANNER WHICH WILL NOT WASH THE PRODUCT FROM THE FOLIAGE AND REDUCE DISEASE CONTROL.

No additional surfactants are needed unless specified for an individual crop. Add this product to the spray tank followed by any sticker-spreaders, insecticides, nutrients, etc. Observe all cautions and limitations on the label of all products used in mixtures. The specific instructions given on this label are based on general applications and circumstances. The recommendations of the State Agricultural Extension Service should be closely followed as to timing, frequency and number of sprays per season.

NOTE: APPLICATION TO PLANT SURFACES SPRAYED WITH AND WHICH HAVE LOW pH CHEMICAL RESIDUE MAY ALSO RESULT IN CROP INJURY.

Sprinkler Chemigation System Requirements

- 1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3. The pesticide injection pipeline must also contain a functional, normally dosed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

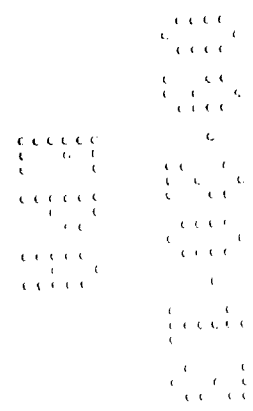
Floor (Basin), Furrow and Border Chemigation System Requirements

- 1. Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from back flow if water flow stops.
- 2. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - a. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
 - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
 - c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

- d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- e. 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.
- f. 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.

Drip (Trickle) Chemigation System Requirements

- 1. The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4. The system must contain functional inter-locking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.



BERRIES, VINES AND HOPS

10/23

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
BRAMBLES (Blackberry, Santiam, Logans, Boysen, Marion, Aurora, Cascade, Chehalem and Thornless Evergreen)	Leaf Spot, Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, and Pseudomonas Blight.	1.75	33.3	7	Apply delayed dormant spray after training in Spring. Make Fall spray application after harvest. Add 1 quart of crop oil per acre. Apply when leaf buds begin to open and repeat when flower buds show white. Add 1 quart of crop oil per acre. NOTE: Crop injury may occur if applied to foliage under certain conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.
	Leaf Spot, Cane Spot, Purple Blotch, Anthracnose, and Yellow Rust.	0.75			
BLUEBERRY (Except California)	Bacterial Canker	1.75-3.5	28	7	Make first application before the Fall rains, preferably the first week in October and second application four weeks later. Begin dormant applications when bloom buds begin to swell. Make additional applications at 10 to 14 day intervals prior to blooms opening.
	Fruit Rot, Phomopsis Twig Blight	1.0-2.25			
CRANBERRY	Fruit Rot		42	7	Apply beginning in late bloom. One or two applications made at 10 to 14 day intervals may be required, depending on disease pressure. Make three applications at 10 to 14 day intervals as soon as symptoms are observed. Apply post harvest and again in the Spring before bud burst. One or two additional applications at 10 to 14 day intervals may be required depending on disease severity. Apply as a delayed dormant spray in the Spring. Repeat at 10 to 14 day intervals as needed through prebloom. Apply as a prebloom application. A second application can be made 10 to 14 days later if required.
	Rose Bloom				
	Bacterial Stem Canker	3.5			
	Tip Blight (Monilinia), Stem Blight, Leaf Blight, Red Leaf Spot				
	Upright Dieback				
CURRANT, GOOSEBERRY	Anthracnose, Leaf Spot	4.25	53.3	10	Make three applications starting after harvest, before bloom and after petal fall. Continue on a 10 to 14 day schedule during wet conditions in the Spring.
	Black Rot, Frodoopsis, Powdery Mildew, Downy Mildew	0.75-1.75			
GRAPE			66.7	3	Begin application at bud break with additional applications made throughout the season depending on disease severity. NOTE: Slight to severe foliage injury may occur in copper-sensitive varieties such as Concord, Delaware, Niagara and Rosette. Use lower rate of this product and test for sensitivity when treating these varieties or others known to be sensitive to copper. Add hydrated lime at a rate of 1 to 3 pounds per 100 gallons of spray solution to decrease the severity of phytotoxicity. Mix this product and water first before adding lime or incompatibility may occur.

BERRIES, VINES AND HOPS (continued)

CROP	DISEASE	RATE / ACRE (LBS. OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
HOPS	Downy Mildew	0.75	8.83	10	Apply as a fungicide crown treatment after pruning, but before training. After training, additional fungicide treatments are needed at about 10 day intervals. NOTE: Discontinue use 2 weeks before harvest.
RASPBERRY	Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, Pseudomonas Blight	1.75	33.3	7	Apply as a delayed dormant spray after training in the Spring. Make a Fall application after harvest. Add one quart of crop oil per acre. NOTE: Crop injury may occur if applied to foliage under certain conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.
	Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust	0.75			
STRAWBERRY	Angular Leaf Spot (Xanthomonas), Leaf Blight, Leaf Scorch, Leaf Spot	0.75-1.25	27.3	7	Begin application when plants are established and continue on a weekly schedule throughout season. Apply in at least 20 gallons of water. NOTE: Discontinue applications if signs of phytotoxicity appear.

FIELD CROPS

CROP	DISEASE	RATE / ACRE (LBS. OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
ALFALFA	Cercospora & Leptosphaerulina Leaf Spots	0.75	3.73	30	Apply 10 to 14 days before each harvest or earlier if disease threatens. NOTE: Spray injury may occur with sensitive varieties such as Lahontan.
CORN (Field, Pop, Sweet)	Bacterial Stalk Rot	0.5-1.75	14	7	Begin applications when disease first appears. Repeat applications on a 7 to 10 day interval.
PEANUT	Cercospora Leaf Spot	0.75-1.25	15.8	7	Begin spraying 35 to 40 days after planting or when disease symptoms first appear. Continue applications at 10 to 14 day intervals. One to two quarts of six pounds per gallon flowable sulfur may be added. Reduce spray interval to 7 days during humid weather. Use higher rates when conditions favor disease.
POTATO	Early Blight & Late Blight	0.5-1.75	83.3	5	Apply at 7 to 10 day intervals starting when plants are 2 to 6 inches high. Apply the lower rate in those locations where disease is light and the higher rate where disease is severe. Tank mixing this product with other registered potato fungicides will improve disease control under severe disease conditions.
SUGARBEET	Cercospora Leaf Spot	0.75-2.0	26.2	10	Start spraying when disease threatens and continue for 4 to 5 applications. Spray every 10 to 14 days depending on weather conditions and depending on disease severity.
WHEAT, BARLEY, OATS	Septoria Leaf Blotch & Helminthosporium Spot Blotch	0.5-0.75	3.53	10	Make first application by early heading and follow with second application 10 days later or as necessary. Use higher rates when conditions favor disease.

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TREE CROPS

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
ALMOND, APRICOT, CHERRY, PLUM, PRUNE	Coryneum Blight (Shot Hole), Bacterial Canker, Blossom Brown Rot, Bacterial Blast (<i>Pseudomonas</i>)	3.5-7.0			Use as a dormant application before foliage buds swell. For CHERRIES , where disease is severe, an additional application at leaf fall may be required. ALMOND ONLY: for Bacterial Blast control in sprinkler irrigated orchards or where disease is severe, apply 0.5 pounds per acre post-bloom, at 2 week intervals or just prior to sprinkling. NOTE: NePlus, Peerless, and Mission varieties of almonds are susceptible to injury from post bloom foliar applications.
	Coryneum Blight (Shot Hole), Blossom Brown Rot	2.5-3.5 (Almonds) 3.5-5.0 (All Others)	60	7	Make early bloom (popcorn) application prior to full bloom. DO NOT apply after full bloom due to the potential occurrence of injury. Use the higher rates when rainfall is heavy as disease pressure is high.
	Black Knot (Plum)	1.75-3.5			Make application at bud swell up to early bloom for early season disease suppression. NOTE: DO NOT use apply after full bloom due to the potential for crop injury.
	Cherry Leaf Spot (Sour Cherries Only)	4-25 2.25-3.5			Make applications at petal fall. Make 1 to 2 additional applications after petal fall, if necessary. DO NOT use on sweet cherries or to the English Morello variety as severe injury will occur. Add 1 to 3 pounds of hydrated lime per pound of this product to reduce crop injury. NOTE: Post bloom applications have the potential to cause moderate to severe injury in the form of leaf spotting and defoliation.
	Anthraxnose, European Canker, Blossom Blast, Shoot Blast (<i>Pseudomonas</i>)	5.25-7.0			Apply before Fall rains. NOTE: Due to the potential for discoloration on yellow varieties, pick before spraying.
APPLE	Fire Blight, Apple Scab	3.5-7.0			Make application as a full cover spray between silver- tip and green-tip. Only one (1) application is allowed on pome fruit during fall/late dormant, and between silver-tip and green-tip. NOTE: Discontinue use when green-tip reaches ½ inch as late applications could lead to moderate or severe crop injury.
	Apple Scab	0.75-1.75	53.5	5	Extended Spray Schedule: Continue applications when fruit finish is not an issue. Make applications at 5 to 7 day intervals or as needed between green tip (1/2 inch) and first cover spray.
	Fire Blight	0.5-0.75			NOTE: These applications are not intended for fruit going to fresh market due to the potential for crop injury (fruit russetting). Add 1 to 3 pounds of hydrated lime per pound of this product to reduce crop injury.
AVOCADO	Crown and Collar Rot	1.75 (in 100 gallons of water)			Apply 4 gallons of suspension as a drench on the lower trunk area of each tree. Apply either in early Spring or in Fall after harvest each year. NOTE: DO NOT use if soil pH is below 5.5 or copper toxicity may result.
	Anthraxnose, Blight, Scab	3.5-5.25	63	14	Apply when bloom buds begin to swell. Make applications at 14-day intervals. Continue applications at monthly intervals for 5 to 6 applications. Use higher rate when conditions favor disease.

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TREE CROPS (Continued)

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS	
		Per Application	Maximum Annual			
CITRUS	Melanose, Scab, Algal Spot	1.75-5.0			Apply, depending on disease severity, as a pre-bloom and post-bloom spray.	
	Greasy Spot, Pink Pitting	0.75-2.5			Make summer applications on new growth/flush. Repeat applications to new growth/flush when disease pressure is severe. Apply using higher rates when conditions favor disease.	
	Alternaria Brown RotSpot	1.75-3.5			Make applications to susceptible varieties when the first spring flush appears and each new flush afterwards. Start applications to fruit after 2/3 of the petals have fallen. Repeat on a 21-day spray schedule or as needed.	
	Phytophthora Brown Rot, Septoria Spot	1.75-3.5			Begin applications in fall before or just after the first rain and continue as needed. BROWN ROT ONLY: Apply to skirts of trees to a height of at least 4 feet. SEPTORIA SPOT/ALREADY BROWN ROT INFECTED FRUIT: Apply to entire tree. Apply also to bare ground one foot beyond skirt. NOTE: California: Add 1/3 to 1 pound of high quality lime per pound of product in areas subject to copper injury.	
	Phytophthora Foot Rot	0.5 (in 1 quart of water, Tre-Hold, or latex paint)	42	7	Paint trunks of trees from the soil surface to the lowest scaffold limbs. Apply in May prior to summer rains and/or in the fall prior to wrapping trees for freeze protection. Treatment protects trees for up to 1 year, but does not cure trees currently infected. NOTE: Due to wash off, retreatment will be needed in areas where microjet or low volume irrigation hit the tree trunk.	
	Citrus Canker (Suppression)	2.0-5.0			Make applications to fresh flushes. 7 to 14 days after shoots begin to grow. Make additional applications to young fruit. The number and timing of applications is dependent on disease severity. Make applications to each flush of new growth when disease pressure is severe.	
		1.25-8.0 Florida Only			Make applications to fresh flushes. Repeat at 14-21 day intervals, or more often if needed, depending on disease pressure and environmental conditions. During dry weather and low disease pressure, rates may be reduced (1.25-2.5 lbs/A), whereas, with weather and high disease pressure may require higher rates (4.0-8.0 lbs/A). It is important to protect all subsequent leaf flushes throughout the year. Young fruit may require an additional application.	
	NOTE: This product has the potential for being phytotoxic to young tender flush when it is applied to citrus seedlings grown in greenhouses or shade houses.					
	CITRUS (Field Nursery Grown)	Melanose, Scab, Pink Pitting, Greasy Spot, Brown Rot, Citrus Canker (Suppression)	1.75-3.5	42	7	Make applications at 28-day intervals or as needed depending on disease pressure.

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TREE CROPS (continued)

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
FILBERT	Bacterial Blight	7.0-10.5	80	14	Apply as a postharvest spray. In seasons of heavy rainfall, apply another spray when three-fourths of the leaves have dropped. Add 1 pint of superior type oil per 100 gallons of water.
	Eastern Filbert Blight				Apply in sufficient water to obtain thorough coverage. Make initial application at budswell to budbreak. Additional sprays should be made on a 10 to 14 day interval depending on disease severity or when conditions are conducive for disease development. Add 1 pint of superior type oil per 100 gallons of water.
KIWIFRUIT	<i>Erwinia herbicola</i> , <i>Pseudomonas syringae</i> , <i>Pseudomonas fluorescens</i>	3.5 (in 200 gallons of water)	8.83	4630	Make monthly applications with a maximum of 3 applications per season.
MACADAMIA	Anthraxnose	2.5-4.0	31.5	7	Begin applications at first sign of flowering and repeat on a weekly spray schedule until just before harvest. Apply in sufficient water for thorough coverage. Make applications during raceme development and bloom periods. Apply in sufficient water for thorough coverage.
	Phytophthora Blight (<i>P. capsici</i>), Raceme Blight,	1.25-2.4			
OLIVE	Peacock Spot, Olive Knot	3.5-5.25	60	30	Make first application before Winter rains fall. A second application in early Spring should be made if disease is severe.
PEACH, NECTARINE	Leaf Curl, Coryneum Blight (Shot Hole), Bacterial Canker, Bacterial Blast (<i>Pseudomonas</i>), Bacterial Spot (<i>Xanthomonas</i>)	3.5-7.0	60	7	Make first application before fall rains and the second application at late dormant. LEAF CURL: Late dormant application must be made before leaf buds swell. Add an agricultural spray oil, if needed. Apply as a full cover spray at pink bud. Application at this time affords some control of Leaf Curl and Coryneum Blight.
	Blossom Brown Rot, Leaf Curl, Coryneum Blight (Shot Hole)	3.5-5.25			
PEAR	Bacterial Spot	0.5	53.3	5	Apply post bloom applications at first and second cover sprays. NOTE: DO NOT apply 3 weeks before harvest. Cover spray applications have the potential to result in leaf spotting. Apply at 5 day intervals throughout bloom period. NOTE: Russetting could occur in copper sensitive varieties or on any variety if excessive rates are used.
	Fire Blight	0.5			
PECAN	<i>Pseudomonas</i> Blossom Blast	5.25-7.0	28	14	Apply before Fall rains and again at dormant before Spring growth starts. Only one (1) application is allowed on pome fruit during fall/late dormant, and between silver-tip and green-tip. Suppression Only: Apply at 2 to 4 week intervals when kernel growth begins through shuck opening. Apply in sufficient water to ensure thorough coverage. The minimum interval between treatments is 14 days. DO NOT apply more than 5.6 lbs. product per acre (2.1 lbs. metallic copper/A) in a single application. DO NOT apply more than 22.4 lbs. product per acre (8.4 lbs. metallic copper/A) per year.
	Shuck Rot, Kernel Rot (<i>Phytophthora cactorum</i>), Crate Leaf Spot (<i>Cristulariella pyramidalis</i>)	0.75-1.75			
	Ball Moss, Spanish Moss	2.5-3.5 (in 100 gallons of water)			Make applications in the spring when moss is actively growing. Use 1 ½ gallons of spray per foot of tree height. Wet moss tufts thoroughly. Add a non-ionic surfactant for improved control. Make a second application after 12 months, if needed.

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TREE CROPS (continued)

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
PISTACHIO	Botrytis Blight, Botryosphaeria Panicle and Shoot Blight, Septoria Leaf Blight, Late Blight (<i>Alternaria alternata</i>)	1.75-3.5	28	14	Apply beginning at budswell. Repeat at 14 to 28 day intervals depending on disease conditions. If disease conditions are severe, use the high rate and the short spray interval.
		0.5	53.3	5	
QUINCE	Fire Blight	3.5-5.25	107	7	Apply at 5 day intervals throughout the bloom period. Apply in sufficient water to provide thorough coverage. Apply first spray at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage as needed. Additional applications may be necessary when frequent rainfall occurs. NOTE: When applied as a dilute spray, 1 pint of Summer oil emulsion may be added per 100 gallons of spray. Adequate control may not be obtained when copper tolerant species of <i>Xanthomonas</i> bacteria are present.
WALNUT	Walnut Blight				

TROPICAL CROPS

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
BANANA	Sigatoka (Black & Yellow)	0.75 (in 3 gallons of water)	63	7	Apply by air. Add an agricultural spray oil, if needed. Apply on a 14 day schedule throughout the wet season. Apply at 21 day intervals during dry periods.
	Black Pitting	1.75 (in 100 gallons of water)			
CACAO	Black Pod	0.75-3.75	52.5	14	Apply directly to the fruit stem and include the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence. Begin applications at the start of the rainy season and continue while infection conditions persist. Sprays on 14 to 21 day intervals depending on disease severity. For drier areas, make 2 to 4 applications during critical infection periods and at long intervals according to disease pressure, incidence and planting density.
COFFEE	Coffee Berry Disease	2.5-3.5	42	14	Apply first spray after flowering and before onset of long rains and then at 21 to 28 day intervals. Begin spray program before onset of the long rains and continue throughout the rainy season at 14 to 21 day intervals. The critical time of spraying to control this disease is just before, during, and after flowering(s), especially when coinciding with wet weather. Use the higher rates when rainfall is heavy and disease pressure is high. Apply before the onset of rain and then at 21 day intervals while the rains continue. Use higher rates when rainfall is heavy and disease pressure is high.
	Bacterial Blight (<i>Pseudomonas syringae</i>)	2.5-3.5			
	Leaf Rust (<i>Hemileia vastatrix</i>) Iron Spot (<i>Cercospora coffeicola</i>) and Pink Disease (<i>Corticium sp.</i>)	0.75-1.75 0.75			
GUAVA	Anthraxnose, Red Algae	1.25-2.0	16.4	7	Apply as a concentrate or dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for 3 applications. Apply beginning just prior to flowering and repeat weekly until just prior to harvest. Use sufficient water for thorough coverage.
LITCHI	Anthraxnose	1.25-2.0	16.4	7	Apply beginning just prior to flowering and repeat weekly until just prior to harvest. Use sufficient water for thorough coverage.

TROPICAL CROPS (Cont'd)

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
MAMEY SAPOTE	Anthraxnose, Algal Leaf Spot	2.5-3.5	28	14	Apply when conditions favor disease development. Repeat at 14 to 30 day intervals as needed.
MANGO (Florida & Puerto Rico)	Anthraxnose	2.0-4.0	160	7	Apply monthly after fruit set until harvest.
PAPAYA	Anthraxnose	1.75-4.25	70.7	7	Apply beginning before disease is expected to appear. Repeat at 10 to 14 day intervals under light disease pressure or at 5 to 7 day intervals during periods of heavy rainfall and severe disease pressure. Add a suitable spreader-sticker during periods of heavy rains.
PASSION FRUIT	Anthraxnose	2.5-4.0	31.5	7	Apply beginning just prior to flowering and repeat weekly. Use sufficient water for thorough coverage.
SUGAR APPLE (Annona)	Anthraxnose	5.25-7.75	42	7	Apply beginning just prior to flowering and repeat weekly. Use sufficient water for thorough coverage.

VEGETABLE CROPS

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
BEAN (Dry, Green)	Brown Spot, Bacterial Blight (Halo & Common)	0.5-1.25	15.8	7	For protective sprays, apply first application when plants are 6 inches high. Apply on 7 to 14 day schedule depending on local conditions. Adjust rates depending on disease severity.
CARROT	Alternaria Leaf Spot, Carrot Blight(Cercospora)	0.75	16.7	7	When disease threatens apply at 7 to 14 day intervals depending on disease severity.
CELERY, CELERIAC	Cercospora Early Blight, Septoria Late Blight, Bacterial Blights	0.75	17.7	7	Apply as soon as plants are first established in the field, then every 5 to 7 days depending on disease severity and weather.
CRUCIFERS Broccoli, Brussels Sprout, Cabbage, Cauliflower, Kale, Collard Greens, Mustard Greens, and Turnip Greens	Black Rot (Xanthomonas), Black Leaf Spot (Alternaria), Downy Mildew	0.5-0.75	8.83	7	Apply at 7 day intervals after transplants are set in the field. Use higher rate when conditions favor disease. NOTE: Reddening of older leaves may occur on Broccoli at the higher rate and flecking of wrapper leaves may occur on Cabbage.
CUCURBITS Cantaloupe, Casaba, Chayote, Cucumber, Gourd, Honeydew, Muskmelon, Pumpkin, Squash, and Watermelon	Alternaria Leaf Spot, Angular Leaf Spot, Anthracnose, Downy Mildew, Powdery Mildew, Gummy Stem Blight, Watermelon Bacterial Fruit Blotch (Suppression)	0.5-1.25	17.5	7 5	Apply beginning when conditions are favorable for disease development and repeat at 5 to 7 day intervals, as needed depending on disease severity. NOTE: Crop injury may occur from application at shorter intervals. Discontinue use if injury occurs.
EGGPLANT	Alternaria Blight, Anthracnose, Phomopsis	0.75	26.3	7	Use before disease appears. Repeat at 7 to 10 day intervals or as needed depending on disease severity.
ENDIVE, ESCAROLE	Downy Mildew	0.5-0.75	26.7	5	Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease. The minimum interval between treatments is 5 days.

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VEGETABLE CROPS (Cont'd)

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
GARLIC, LEEK, ONION	Purple Blotch & Downy Mildew, Bacterial Blight	0.75	20	7	Apply when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals. This product can be phytotoxic to leaves.
		0.5-0.75	26.7	5	
LETTUCE	Downy Mildew	0.75-1.75	17.5	5	Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease.
OKRA	Anthraxnose, Bacterial Leaf Spot, Leaf Spots, Pod Spot, Powdery Mildew	0.5-1.25	13.2	7	When disease threatens, apply in sufficient water for adequate coverage at 5 to 10 day intervals depending on disease severity.
PEA	Powdery Mildew	0.75-1.25	39.5	3	Begin spray treatment when disease symptoms first appear. Adjust rates according to disease severity. Repeat applications at weekly intervals.
PEPPER	Anthraxnose, Bacterial Spot, Cercospora Leaf Spot	0.75-1.25	13.2	7	Begin spray treatment when disease symptoms first appear and at 7 to 10 day intervals depending on disease severity.
SPINACH	Anthraxnose, Cercospora Leaf Spot, Downy Mildew, White Rust, Blue Mold	0.75-2.0	26.2	10	Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease. NOTE: Flecking may occur on spinach leaves.
TABLE BEET, BEET GREENS	Cercospora Leaf Spot	0.75-1.75	58	3	Apply when conditions favor disease. Repeat treatment at 10 to 14 day intervals as needed. Add an agricultural spray oil, if needed.
		0.75-1.75	26.7		
TOMATO (for processing) (for fresh market)	Early Blight, Late Blight, Bacterial Speck, Bacterial Spot, Anthracnose, Gray Leaf Mold, Septoria Leaf Spot	0.75	7.07	7	When disease threatens, apply at 5 to 10 day intervals, more frequently when disease is severe.
WATERCRESS	Cercospora Leaf Spot				Apply when plants are established in the field. Repeat at 7 to 14 day intervals up to four applications per crop in at least 50 gallons of water per acre.

MISCELLANEOUS

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
ATEMOYA	Anthraxnose	1.25-2.0	42	7	Apply just prior to flowering and repeat weekly until just prior to harvest. Use sufficient water for thorough coverage.
CARAMBOLA	Anthraxnose	2.5-3.5	35	7	Apply just prior to flowering and repeat weekly until just prior to harvest. Use sufficient water for thorough coverage.
CHIVES	Downy Mildew	0.75	8.83	7	Apply when plants are established in the field. Repeat at 7 to 10 day intervals as needed.
DILL	Phoma Leaf Spot, Rhizoctonia Foliage Blight	0.75-1.25	13.2	7	Apply when plants are established in the field. Repeat at 7 to 10 day intervals as needed.
GINSENG	Alternaria-Leaf, Stem Blight	1.0-1.75	17.5	7	This product may be applied as a tank mix with two pounds Iprodione 50WP in 100 gallons of water per acre. Begin Iprodione 50WP/Champ 30 DP applications as soon as plants have emerged in Spring. Applications should be repeated every 7 days until plants become dormant in Fall. Apply fungicides at least 8 hours before rain, giving the fungicides time to dry on the plants. Use a spreader-sticker if needed. NOTE: <i>Alternaria Leaf & Stem Blight</i> is most severe in humid conditions such as those found in the dense canopies of two, 3 and 4 year old ginseng. Complete and thorough spray coverage is required for control.

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MISCELLANEOUS (Cont'd)

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
PARSLEY	Bacterial Blight (<i>Pseudomonas</i> spp.)	1.25	6.67	10	Apply when plants are first established in the field and repeat at 5 to 7 day intervals.
PERSIMMON	Cercospora Leaf Spot	0.75	20	14	Apply beginning in May/June, during leaf flush, and repeat at 14 day intervals throughout the season depending on disease severity.

CONIFERS
(Christmas Tree Plantings, Forest Stands, and Silviculture Nurseries)

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
DOUGLAS FIR	Rhabdocline Needlecast	0.75-1.75	60 66.7	44 7	Apply at bud break and repeat at 3 to 4 week intervals. Apply in a tank mix with other registered pesticide if disease pressure is moderate to severe.
FIR, PINE, SPRUCE	Needlecasts				
JUNIPER	Anthraxnose, Phomopsis Twig Dieback				
LEYLAND CYPRESS	Cercospora Needle Blight				

TURFGRASS

CROP	DISEASE	RATE / ACRE (LBS OF PRODUCT)		Minimum Retreatment Interval (days)	USE INSTRUCTIONS
		Per Application	Maximum Annual		
TURFGRASS (such as sod farms, golf courses, cemeteries, home lawns, and industrial or municipal turf areas (including parks, playgrounds, athletic fields))	Algae Control	0.75 per 1,000 square feet	70	10	Apply in 5 gallons of water to control algae. This product may be used alone or in combination with other registered fungicides as a maintenance spray. NOTE: Phytotoxicity may occur depending upon varietal differences. If injury occurs discontinue use. DO NOT apply in spray solutions with a pH of less than 6.5.

GREENHOUSE AND SHADEHOUSE CROPS

This product may be used in greenhouses and shadehouses to control diseases on crops listed on this label. Specific directions are provided below for certain crops and the grower should be aware that the sensitivity of crops grown under such conditions differ greatly from field conditions. The user must determine if this product can be used safely prior to commercial application by testing a small area and observing the results for 7 to 10 days.

One level tablespoon of this product per 1,000 square feet is equivalent to 0.5 pound per acre. Begin application at first sign of disease and repeat at 7 to 14 day intervals as needed.

CROP	DISEASE	RATE (Tablespoons)	USE INSTRUCTIONS
CITRUS (Non-Bearing Nursery)	Brown Rot, Citrus Canker, Greasy Spot, Melanose, Pink Pitting, Scab	1.5	Begin applications when disease first threatens and repeat at 30-day intervals or as needed depending on disease pressure. NOTE: DO NOT use this product on Citrus seedlings grown in greenhouses or shadehouses.
CUCUMBER	Angular Leaf Spot, Downy Mildew	0.5-1.5	Apply weekly when plants begin to vine.
EGGPLANT	Alternaria Blight, Anthracnose, Phomopsis	0.5	Apply at first sign of disease and repeat at 7 to 14 day intervals as needed.
PEPPER	Bacterial Spot	0.5-1.5	Apply when conditions first favor disease and at 5 to 10 day intervals as needed.
TOMATO	Anthracoese, Bacterial Speck, Bacterial Spot, Early Blight, Grey Leaf Mold, Late Blight, Septoria Leaf Spot	0.5-1.5	Apply when conditions first favor disease and at 7 to 10 day intervals as needed.

ORNAMENTALS

CROP	DISEASE	RATE (Pounds/100 gallons water)	USE INSTRUCTIONS
PECAN, LIVE OAK (Texas and Florida)	Ball Moss	2.5-3.5	Apply in Spring after heavy rain, using 1-1/2 gallons of spray per foot of tree height. Make sure to wet tufts thoroughly. A second application may be required after 12 months. NOTE: This product may be injurious to ornamentals grown under live oaks.
PHILODENDRON	Bacterial Leaf Spot	0.75	Apply weekly before disease appears.
SYCAMORE	Bacterial Leaf Spot, Anthracnose	0.75-1.25	Make two applications as a full cover spray. Make first application at bud crack and second application 7 to 14 days later at 10% leaf expansion.

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For control of bacterial and fungal diseases on foliage, flowers, and stems of ornamentals grown in **Greenhouses, Shadehouses, Fields and Nurseries** (container, bench or bed-grown): apply this product at 0.5 pound per 100 gallons as a full cover spray beginning at first sign of disease. **DO NOT** apply more than 800 gallons solution per acre dilute per application depending on the size of the ornamental (equivalent to 0.05 to 2 lbs. metallic copper per acre). **DO NOT** make more than 10 applications at these rates per year (maximum of 20.0 lbs. metallic copper per acre per year). Note: Compact flowers may take as little as 20 gallons solution per acre while large trees may take as much as 800 gallons solution per acre.

Repeat at intervals of 7 to 14 days (minimum spray interval permitted is 7 days) depending on rainfall and disease severity. Due to the large number of species, widely varying growth conditions, and varieties of ornamentals and nursery plants it is impossible to test every one for sensitivity to this product. The user should apply the recommended rate of this product in a small area and check for any symptoms of phytotoxicity in 7 to 10 days prior to large-scale application.

DO NOT tank mix with Aliette® fungicide without buffering the spray solution.

One-half tablespoon of this product per gallon of water is equivalent to 0.9 pound per 100 gallons.

ORNAMENTAL	DISEASE
AGLAONEMA	Bacterial Leaf Spot
ALTHEA (Rose of Sharon)	Bacterial Leaf Spot
ARALIA	Xanthomonas & Cercospora Leaf Spots, Alternaria
ARBORVITAE	Alternaria Twig Blight, Cercospora Leaf Spot
AZALEA (1)	Cercospora Leaf Spot, Botrytis Blight, Phytophthora Dieback, Powdery Mildew
BEGONIA	Bacterial Leaf Spot (<i>Xanthomonas spp.</i> , <i>Erwinia spp.</i> , <i>Pseudomonas spp.</i>)
BOSTON FERN	Bacterial Leaf Spot
BOUGAINVILLEA	Anthracoese, Bacterial Leaf Spot
BULBS (Easter Lily (2), Tulip)	Botrytis Blight, Anthracnose
CAMELLIA	Anthracoese, Bacterial Leaf Spot
CAMPHOR TREE	Pseudomonas Leaf Spot
CANNA	Pseudomonas Leaf Spot
CARNATION (1)	Alternaria Blight, Pseudomonas Leaf Spot & Botrytis Blight
CHINESE TALLOW TREE	Bacterial Leaf Spot (<i>Xanthomonas spp.</i> , <i>Pseudomonas spp.</i>)
CHRYSANTHEMUM (1)	Septoria Leaf Spot, Botrytis Blight
COTONEASTER	Botrytis Blight
DAHLIA	Alternaria Leaf Spot, Cercospora Leaf Spot, Botrytis Grey Mold
DATE PALM	Pestalotia Leaf Spots
DIANTHUS	Bacterial Spot, Bacterial Soft Rot
DOGWOOD	Anthracoese
DRACAENA	Bacterial Leaf Spot
DUMB CANE	Bacterial Leaf Spot
DUSTY MILLER	Bacterial Leaf Spot (<i>Pseudomonas cichorii spp.</i>)
ECHINACEA	Botrytis Blight
ELM (Drake)	Xanthomonas Leaf Spot
EUONYMUS	Botrytis Blight, Anthracnose
EUROPEAN FAN PALM	Pestalotia Leaf Spot
GARDENIA	Alternaria Leaf Spot, Cercospora Leaf Spot, Botrytis Bud Rot
GERANIUM	Alternaria Leaf Spot, Cercospora Leaf Spot, Botrytis Grey Mold
GLADIOLUS	Alternaria Leaf Spot, Botrytis Grey Mold, Bacterial Leaf Blight, Botrytis Blight, Anthracnose
GOLDEN RAIN TREE	Alternaria Leaf Spot, Botrytis Grey Mold, Bacterial Leaf Blight

ORNAMENTAL	DISEASE
GRAPE IVY	Bacterial Leaf Spot
HIBISCUS (3)	Bacterial Leaf Spot
HOLLY FERN	Pseudomonas Leaf Spot
HONEY LOCUST	Bacterial Leaf Spot
IMPATIENS	Bacterial Leaf Spot
INDIA HAWTHORN (4)	Anthracoze, Entomosporium Leaf Spot
IRIS	Bacterial Leaf Spot
IVY (English, Algerian) (1)	Xanthomonas Leaf Spots
IXORA	Xanthomonas Leaf Spots
JUNIPER (Eastern Red Cedar)	Anthracoze
LANTANA	Bacterial Leaf Spot
LILAC	Cercospora Leaf Spot
LOBLOLLY BAY	Anthracoze
LOQUAT	<i>Entomosporium maculata</i> , <i>Colletotrichum spp.</i>
MAGNOLIA (Southern)	Anthracoze, Bacterial Leaf Spot, Algal Leaf Spot
MAGNOLIA (Sweet Bay)	Anthracoze
MAGNOLIA	Bacterial Leaf Spot
MAN DEVILLAS	Anthracoze
MARIGOLD	Alternaria Leaf Spot, Botrytis Leaf Rot, Flower Rot, Cercospora Leaf Spot
MULBERRY - CONTORTED	Bacterial Leaf Spot
MULBERRY - WEEPING	Bacterial Leaf Spot
NEPHTHYTIS	Bacterial Leaf Spot
OLEANDER	Bacterial Leaf Spot, Fungal Leaf Spot
OAK, LAUREL	Algal Leaf Spot, (<i>Cephaleuros virescens spp.</i>)
PACHYSANDRA	Volutella Leaf Blight
PANSY	Downy Mildew
PARLOR PALM	Bacterial Leaf Spot
PEAR (flowering)	Fire Blight, Leaf Spot
PENTAS (Egyptian Star)	Bacterial Leaf Spot (<i>Xanthomonas spp.</i>)
PEONY	Botrytis Blight
PERIWINKLE	Phomopsis Stem Blight
PHLOX	Alternaria Leaf Spot
PHOTINIA (Red Tip, Red Leaf)	Anthracoze, Entomosporium
PISTACHIO	Anthracoze
PLANTAIN LILY	Bacterial Leaf Spot
POTHOS	Bacterial Leaf Spot
POWDER PUFF PLANT	Bacterial Leaf Spot
PURPLE OSIER WILLOW	Anthracoze
PYRACANTHA	Fireblight, Scab
QUEEN PALM	Exosporium Leaf Spot, Phytophthora Bud Rot
RHODODENDRON	Alternaria Flower Spot

ORNAMENTAL	DISEASE
ROSE (1)	Powdery Mildew, Black Spots
SNAPDRAGON	Anthracoze, Dieback, Downy Mildew
SPATHE FLOWER	Bacterial Leaf Spot
TATARIAN HONEYSUCKLE	Bacterial Leaf Spot
UMBRELLA TREE	Bacterial Leaf Spot
VERBENA	Xanthomonas Leaf Spot
VIBURNUM	Anthracoze
WASHINGTON PALM	Pestalotia Leaf Spot
WEeping FIG	Bacterial Leaf Spot
WEeping WILLOW	Anthracoze
YUCCA (ADAMS NEEDLE)	Cercospora & Septoria Leaf Spots

- (1) On some varieties a discoloration may occur in foliage or blooms. To prevent residues on commercial plants, **DO NOT** spray just before selling season.
- (2) Apply 2 to 3-1/2 pounds of this product in 20 to 100 gallons of water per acre. The minimum interval between treatments is 7 days. **DO NOT** apply more than 6.67 lbs. product per acre (2.5 lbs. metallic copper/A) in a single application. **DO NOT** apply more than 200 lbs. product per acre (75 lbs. metallic copper/A) per year.
- (3) Hibiscus – **DO NOT** apply to plants in flower.
- (4) For India Hawthorn use 1-1/3 pounds per 100 gallons or 2/3 tablespoon per gallon. Use no more than 400 gallons solution per acre per application (equivalent to 2.0 lbs. metallic copper per acre). **DO NOT** make more than 10 applications at these rates per year (maximum of 20 lbs. metallic copper per acre per year).

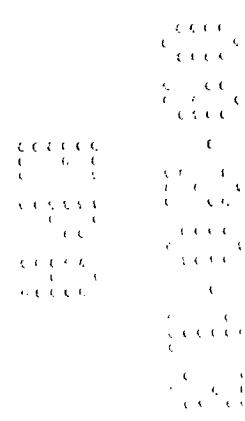
STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool dry place.

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

CONTAINER DISPOSAL: Nonrefillable container. **DO NOT** reuse or refill this container. Completely empty bag into application equipment. Offer for recycling, if available or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.



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