11435-7 07/31/2006 D365260 5 190677 1/25

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

NOTICE OF PESTICIDE:
_x_ Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	Date of Issuance:
11435-7	JUL 31 2006

Term of Issuance: Conditional

Name of Pesticide Product:
Copper Hydroxide 50 WP

Name and Address of Registrant (include ZIP Code):
CP Chemicals, Inc.
65 Challenger Road, 3rd Floor
Ridgefield Park, NJ 07660

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

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

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

1. Submit and/or cite all data required for registration of your product under FIFRA Section 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for re-registration of your product under FIFRA section 4.

2. You must submit the following conditional data listed below, before the due date of January 31, 2008:

    a. Storage Stability (830.6317) and Corrosion Characteristics (830.6320) studies.

3. You must submit two copies of a final printed label within 45 days from the date of this notice which makes the following changes:

    a. Change the product registration number to "EPA Reg. No. 11435-7"

Signature of Approving Official:

Tony Kish

Tony Kish
Product Manager 22
Fungicide Branch
Registration Division (7505P)

Date: JUL 31 2006

EPA Form 8570-6

2/25

b. Add the following to the First Aid box: "**IF ON SKIN**: Take off contaminated clothing; Rinse skin immediately with plenty of water for 15 – 20 minutes; Call a poison control center or doctor for treatment advice."

c. Immediately under the First Aid box, delete the sentence "See label for Additional Precautions and Directions for Use."

d. In the Precautionary Statements, delete the sentence "May cause skin sensitization reactions in certain individuals."

e. In the Storage and Disposal instructions:

1. Change the Pesticide Storage instructions to "Store in a cool, dry secure place."
2. Make the following change to the Container Disposal instructions: "Completely empty bag and/or fiber drum into application equipment. Then dispose of empty bag and/or fiber drum …."

f. In the second paragraph under USE PRECAUTIONS, change "No label dosage rates should be exceeded. This product cannot be mixed…." to "No label dosage rates may be exceeded. This product may not be mixed…."

g. Make the following changes to the WARRANTY STATEMENT:

1. Change "In no case shall CP Chemicals, Inc. be liable…." to "To the extent consistent with applicable law, in no case shall CP Chemicals, Inc. be liable…."
2. Change "The exclusive remedy of any buyer or user…." to "To the extent consistent with applicable law, the exclusive remedy of any buyer or user…."
3. Change "…OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE." To "…OR IMPLIED WARRANTY BEYOND WHAT IS EXPRESSLY WARRANTED BY THIS LABEL."

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

A copy of the label stamped "Accepted with comments" is enclosed for your records.

Sincerely,

Tony Kish

Tony Kish,
Product Manager, Team 22
Fungicide Branch
Registration Division (7505P)

Enclosures: Label stamped "Accepted with Comments"
Product Chemistry Review dated 7/19/06
Similarity Clinic Determination dated 6/29/06

COPPER HYDROXIDE 50 WP

FUNGICIDE / BACTERICIDE WETTABLE POWDER

3/25

ACTIVE INGREDIENT:

Copper Hydroxide* 77.0%

OTHER INGREDIENTS: 23.0%

TOTAL: 100.0%

(*Metallic Copper Equivalent 50%)

KEEP OUT OF REACH OF CHILDREN

DANGER – PELIGRO

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.)

FIRST AID	
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. • Call a poison control center to doctor for treatment advice.
IF SWALLOWED	• 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 INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further 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. **For medical emergencies involving this product, call toll free 1-888-324-7598.**	
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate use of gastric lavage.	

See label for Additional Precautions and Directions for Use.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

DANGER – PELIGRO

Corrosive. Causes irreversible eye damage. Harmful if swallowed, absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with skin, eyes or clothing. Avoid breathing dust.

ACCEPTED
with COMMENTS
In EPA Letter Dated
JUL 31 2006
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.
11435-7

CP Chemicals, Inc.
Ridgefield Park, NJ 07660

EPA Reg. No. 11435-XX
EPA Est. No. 35896-SC-001

Net Weight: _____

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 sheet.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- *Chemical-resistant gloves made of any waterproof material, such as polyvinyl chloride, nitrile* rubber, or butyl rubber
- Shoes plus socks
- Protective eyewear

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

USER SAFETY RECOMMENDATIONS
Users should: • Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. • Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites. Do not contaminate water by disposal of equipment wash waters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

5/25

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 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 intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS)

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours without required PPE.

The following equipment and precautions must be followed for seven (7) days following the application of this product:

- An eye-flush container, designed specifically for flushing eyes, must be available at the WPS decontamination site for workers entering the area treated with copper hydroxide.
- Notify workers of the application by warning them orally that residues in the treated areas may be highly irritating to their eyes and to take precautions such as refraining from rubbing their eyes and, if they get residues in their eyes, they should immediately flush their eyes using the eye-flush container.

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, such as polyvinyl chloride, nitrile rubber, or butyl rubber
- Shoes plus socks
- 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 WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep unprotected persons out of treated area until sprays have dried.

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 EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then 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.

4/25

Apply Copper Hydroxide 50 WP as an aerial, ground dilute or ground concentrate spray unless directed otherwise in the specific crop directions. For best results, complete spray coverage is essential. When treating by aerial application or with low volume application equipment, it is advisable to test for compatibility and tolerance to crop injury prior to full-scale commercial utilization unless you have had specific previous experience.

Because the per acre use rates listed are applicable for both dilute and concentrate spraying, the spray volume applied per acre will differ depending upon the equipment used and the specific crop and the Minimum Recommended Spray Volumes listed in each section should be referenced. Consult the Copper Hydroxide 50 WP label for specific rates and timing of application by crop. Where application rates and intervals are provided in a range (e.g., 4 to 12 pounds and 7 to 10 days), higher rates and shorter intervals are recommended when rainfall is heavy and/or disease pressure is high. Use the higher rates for large, mature tree crops.

USE PRECAUTIONS

- Applying Copper Hydroxide 50 WP in a spray solution having a pH less than 6.5 may result in phytotoxicity.
- Do not tank mix Copper Hydroxide 50 WP with Aliette® fungicide for use on any registered crops or ornamentals unless appropriate precautions have been taken to buffer the spray solution because severe phytotoxicity may result. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing.
- This product may be reactive on masonry and metal surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do NOT spray cars, houses, lawn furniture, etc.
- Environmental conditions, such as extended period of wet weather, acid rain, etc., which alter the pH of the leaf surface may affect the performance of Copper Hydroxide 50 WP, resulting in possible phytotoxicity or reduction in effectiveness.
- Agricultural chemicals may perform in an unpredictable manner when tank mixed, especially where several products are involved, potentially resulting in reduced efficacy or crop injury. Unless recommended on this label or by a state/local expert, it is advisable to test for compatibility and potential crop injury prior to full-scale commercial utilization of a new tank mix; otherwise, tank mixing is not recommended.
- It must be determined if proper application equipment is available and if waste associated with its use can be properly handled. Agricultural chemicals are often reactive with the materials used in the construction of application equipment such as aluminum, rubber, and synthetic materials. This factor should be taken into consideration when selecting proper application equipment. All application equipment be thoroughly flushed with clean water after each day's use.
- Do not apply this product through any irrigation (chemigation) system using aluminum parts or components or damage to the system may occur. Application using this type of equipment is prohibited regardless of whether the irrigation system is flushed with water after use of this product.
- Apply this product only through one or more of the following types of systems: sprinkler, including center pivot, lateral move, traveler, big gun or plastic pipe solid set system(s) which contain no aluminum parts or components. Do NOT apply this product through any other type of irrigation system.
- While volume is important in obtaining full spray coverage, often factors such as foliage density, environmental conditions and sprayer calibration have a greater impact. Always be sure that sprayers are calibrated to spray equipment manufacturer's specifications and environmental conditions are within those recommended by State and local regulatory authorities.
- When mixing, fill spray tank one-half full with water. Add Copper Hydroxide 50 WP slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. **DO NOT PRE-MIX OR SLURRY** Copper Hydroxide 50 WP. Spreaders, stickers, insecticides, nutrients, etc., should be added last. If compatibility is in question, use the Compatibility Jar Test before mixing a whole tank or contact your chemical supplier. Observe all precautions and limitations on the labels of all products used in mixtures.

CHEMIGATION INSTRUCTIONS

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.

Apply this product only through one or more of the following types of systems: sprinkler, including center pivot, lateral move, traveler, big gun, or plastic pipe solid set system(s) which contain no aluminum parts or components. Do not apply this product through any other type or irrigation system.

Do not apply this product through any irrigation (chemigation) system using aluminum parts or components as damage to the system may occur. Such application is prohibited regardless of whether the irrigation system is flushed with water after use of this product.

Crop injury, lack of effectiveness or illegal pesticide residues can result from nonuniform 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.

Shut off injection equipment after treatment and continue to operate irrigation system until Copper Hydroxide 50 WP has been cleared from the last sprinkler head.

Posting of areas to be chemigated is required when (1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or (2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements:

- Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any location affording maximum visibility to sensitive areas.
- The printed side of the sign should face away from the treated area towards the sensitive area.
- *The signs shall be printed in English.*
- Signs must be posted prior to application and must remain until foliage has dried and soil surface water has disappeared.
- Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.
- All words shall consist of letters at least 2-1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background.
- At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

This sign is in addition to any sign posted to comply with the Worker Protection Standard.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

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.

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 the 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.

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

8/25

The pesticide injection pipeline must 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.

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.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

NOTE: It must be determined if proper application equipment is available and if waste associated with its use can be properly handled. Agricultural chemicals are often reactive with the materials used in the construction of application equipment, such as aluminum, rubbers and some synthetic materials. This factor should be taken into consideration when selecting proper application equipment. It is necessary that all application equipment be thoroughly flushed with clean water after each day's use.

When mixing, fill nurse tank half full with water. Add Copper Hydroxide 50 WP slowly to tank while hydraulic or mechanical agitation is operating and continue filing with water. **DO NOT PREMIX OR SLURRY** Copper Hydroxide 50 WP. Stickers, spreaders, insecticides, nutrients, etc., should be added last. If compatibility is in question, use the Compatibility Jar Test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all precautions and limitations on the labels of all products used in mixtures. Agitation of the mixture in the nurse tank is recommended.

Copper Hydroxide 50 WP should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set irrigation systems. Shut off injection equipment after treatment and continue to operate irrigation system until Copper Hydroxide 50 WP has been cleared from the last sprinkler head.

SPRINKLER CHEMIGATION

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

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

The pesticide injection pipeline must 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.

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

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.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

NOTE: It must be determined if proper application equipment is available and if waste associated with its use can be properly handled. Agricultural chemicals are often reactive with materials used in the construction of application equipment, such as aluminum and some synthetic materials. It is necessary to thoroughly flush with clean water after each day's use.

When mixing, fill nurse tank half full with water. Add Copper Hydroxide 50 WP slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. **DO NOT PREMIX OR SLURRY** Copper Hydroxide 50 WP. Stickers, spreaders, insecticides, nutrients, etc., should be added last. If compatibility is in question, use the compatibility jar test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all precautions and limitations on the labels of all products used in mixtures. Agitation of the mixture in the nurse tank is recommended.

Copper Hydroxide 50 WP should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set irrigation systems. Shut off injection equipment after treatment and continue to operate irrigation system until Copper Hydroxide 50 WP has been cleared from the last sprinkler head.

FROST INJURY PROTECTION
(BACTERIAL ICE NUCLEATION INHIBITOR)

To control ice nucleating bacteria (*Pseudomonas syringae, Erwinia herbicola,* and *Pseudomonas fluorescens*) and assist in protecting against light frost, Copper Hydroxide 50 WP may be applied to all crops listed on this label at the rates and stages of growth indicated at least 24 hours prior to anticipated frost conditions. Not recommended for those geographical areas where weather conditions favor severe frost.

CITRUS
Grapefruit, Kumquat, Lemon, Lime, Orange, Pummelo, Tangelo and Tangerine

Apply using the following minimum recommended spray volumes:

Aerial Applications -	10 gallons per acre
Ground Dilute Applications -	800 gallons per acre
Ground Concentrate Applications -	100 gallons per acre

NOTE: Sprayers capable of obtaining thorough coverage at low volumes (such as Curtec® or other similar sprayers) may be use at spray volumes as low as 20 gallons per acre.

To create "Shot Bag" mixes to meet the various nutritional requirements of citrus and provide disease protection as described on this label, Copper Hydroxide 50 WP may be mixed with dry foliar nutritionals (micronutrients). Copper Hydroxide 50 WP per acre rates in these mixes must not exceed the maximum recommended labeled rates for disease control. Adding foliar nutritionals or other products to spray mixtures containing Copper Hydroxide 50 WP and applying to citrus during the post bloom period when young fruit are present may result in spray burn.

Disease(s) Controlled	Application Rate (Lbs. / Acre)	Specific Instructions
Algal Spot Melanose Scab	4 – 12	Apply as pre-bloom and post-bloom sprays. Use the higher rates when conditions favor disease.
Greasy Spot Pink Pitting	2 – 6	Apply in summer on expanded new flush and fruit. Repeat on subsequent flushes where disease pressure is severe. Use higher rates when conditions favor disease.
Alternaria Brown Spot	4 – 8	On susceptible varieties, apply when the first spring flush appears and each flush thereafter. Application to fruit should start after two-thirds of the petals have fallen and be repeated on a 21-day schedule or as needed. Use higher rates when conditions favor disease.
Phytophthora Brown Rot Septoria Spot		Begin application in fall before or just after the first rain and continue as needed. For Brown Rot only, apply to skirts of trees to a height of at least 4 feet. For control of Septoria Spot or where fruit have already been infected with Brown Rot, apply to entire tree. Apply also to bare ground one foot beyond skirt. Use higher rates when conditions favor disease. NOTE: In California, in areas subject to copper injury, add 1/3 to 1 pound of high-quality lime per pound of Copper Hydroxide 50 WP.
Phytophthora Foot Rot	1	Mix with 1-quart water, Tre-Hold®or latex paint. Paint trunks of trees from 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 serves for protection for up to one year, but does not cure existing infections. NOTE: Areas where micro jet or low volume irrigation hit the tree trunk may require retreatment due to wash off.
Citrus Canker†	12	Spray flushes 7 to 14 days after shoots begin to grow. Young fruit may require an additional application. Number and timing of applications will be dependent upon disease pressure. Under heavy pressure, each flush of new growth should be sprayed. NOTE: Phytotoxicity may occur on young tender flush when Copper Hydroxide 50 WP is applied to citrus seedlings grown in greenhouses or shade houses.

† Supression only of these diseases.

CITRUS Field Nursery Grown

Disease(s) Controlled	Application Rate (Lbs. / Acre)	Specific Instructions
Brown Rot Greasy Spot Melanose Pink Pitting Scab Citrus Canker†	4 – 8	Apply at 28 day intervals or as needed based on severity of disease.

† Supression only of these diseases.

FIELD CROPS
Alfalfa, Barley, Oats, Peanut, Potato, Sugar Beet and Wheat

Apply using the following minimum recommended spray volumes:

Aerial Applications - 3 gallons per acre
Ground Dilute Applications - 20 gallons per acre

Crop(s)	Disease(s) Controlled	Application Rate (Lbs. / Acre)	Specific Instructions
Alfalfa	Cercospora Leaf Spot Leptosphaerulina Leaf Spot	2	Apply 10 to 14 days before each harvest or earlier if disease threatens. NOTE: Spray injury may occur with sensitive varieties such as Lahontan.
Peanut	Cercospora Leaf Spot	1.5 - 3	Begin spraying at 35 to 40 days after planting or when disease symptoms first appear and repeat at 10 to 14 day intervals or as needed. Reduce sprays to 7-day intervals during humid weather. Use higher rates when conditions favor disease. Flowable sulfur may be added.
Potato	Early Blight Late Blight	1 - 4	Apply 1 to 2 pounds per acre at 7 to 10 day intervals or as needed starting when plants are 2 to 6 inches high in locations where disease is light. Apply up to 4 pounds per acre when disease is more severe. *Under conditions of severe disease, control with* Copper Hydroxide 50 WP will be improved by tank mixing with other compatible fungicides registered for use on potatoes. Read and follow all label instructions of tank mix partners.
Sugar Beet	Cercospora Leaf Spot	2 - 5	Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals or as needed. Use higher rates when conditions favor disease. Addition of a spreader/sticker is recommended.
Wheat Barley Oats	Helminthosporium Spot Blotch Septoria Leaf Blotch	1.5 - 2	Make first applications at early heading and follow with second spray 10 days later. Use higher rates when conditions favor disease.

SMALL FRUITS
Blackberry, Blueberry, Cranberry, Currant, Gooseberry, Raspberry and Strawberry

11/25

Apply using the following minimum recommended spray volumes:

Aerial Applications - 10 gallons per acre
Ground Dilute Applications - 100 gallons per acre
Ground Concentrate Applications - 50 gallons per acre

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Blackberry‡ (Aurora Boysen, Cascade, Chehalem Logan, Marion Santiam, Thornless, Evergreen)	4	Anthracnose Cane Spot Leaf Spot Pseudomonas Blight Purple Blotch Yellow Rust	Make fall application after harvest. Apply delayed dormant spray after pruning/training in the spring. If needed, agricultural-type spray oil may be added.
	2	Anthracnose Cane Spot Leaf Spot Purple Blotch Yellow Rust	Apply when leaf buds begin to open and repeat when flower buds show white. If needed, agricultural-type spray oil may be added.
Blueberry	4 - 8	Bacterial Canker	Make first application before fall rains and a second application 4 weeks later. Use the higher rates when conditions favor disease.
	3 - 5	Fruit Rot Phomopsis Twig Blight	Dormant Application: Begin applications when bloom buds begin to swell. Make additional applications at 10 to 14 day intervals or as needed before blooms open.
Cranberry	8	Fruit Rot	Make first application at late bloom. Apply one or two additional applications at 10 to 14 day intervals or as needed depending on disease severity.
		Rose Bloom	Apply three sprays on 10 to 14 day schedule or as needed as soon as symptoms are observed.
		Bacterial Stem Canker	Apply post harvest and again in spring at bud swell. Apply one or two additional applications at 10 to 14 day intervals or as needed depending on disease severity.
		Leaf Blight Red Leaf Spot Stem Blight Tip Blight (*Monilinia*)	Apply delayed dormant spray in the spring. Repeat at 10 to 14 day interval or as needed through pre-bloom.
Currant Gooseberry	10	Anthracnose Leaf Spot	Make initial application after first leaves have expanded. Continue on a 10 to 14 day schedule or as needed during wet conditions in the spring. Make an additional application after harvest.
Raspberry‡	4	Anthracnose Cane Spot Leaf Spot *Pseudomonas Blight* Purple Blotch Yellow Rust	Make fall application after harvest. Apply delayed dormant spray after training in the spring. If needed, agricultural-type spray oil may be added.
	2	Anthracnose Cane Spot Leaf Spot Purple Blotch Yellow Rust	Apply when leaf buds begin to open and repeat when flower buds show white. If needed, agricultural-type spray oil may be added.
Strawberry‡	2 - 3	Angular Leaf Spot (*Xanthomonas*) Leaf Blight Leaf Scorch Leaf Spot	Begin application when plants are established and continue on a weekly schedule throughout season. Apply in at least 20 gallons of water. Use the higher rates when conditions favor disease.

‡ Crop injury may occur if applied to foliage under certain environmental conditions, such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.

TREE CROPS

Almond, Apple, Apricot, Avocado, Banana, Cacao, Cherry, Coffee, Filbert, Mango, Nectarine, Olive, Peach, Pear, Pecan, Pistachio, Plum, Prune, Quince and Walnut

12/25

Apply using the following minimum recommended spray volumes:

Aerial Applications - 10 gallons per acre
Ground Dilute Applications - 400 gallons per acre
Ground Concentrate Applications - 50 gallons per acre

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Almond Apricot Cherry Plum Prune	8 - 16	Bacterial Blast *(Pseudomonas)* Bacterial Canker Coryneum Blight (Shot Hole)	Make first application before fall rains and a second at late dormant. Use higher rates when conditions favor disease. If needed, agricultural-type spray oil may be added. For Cherries, where disease is severe, an additional application shortly after harvest may be required. Almond only: For Bacterial Blast control in sprinkler irrigated orchards or where disease is severe, apply 1 pound per acre post-bloom at 2 week intervals or as needed or just before sprinkling. NOTE: Foliar injury may occur from post-bloom sprays on almonds, especially on NePlus varieties.
	6-8 (Almond) 8-12 (All Others)	Blossom Brown Rot Coryneum Blight (Shot Hole)	Apply during early bloom. Do not apply after full bloom or injury may result. Use the higher rates when rainfall is heavy and disease pressure is high. Make an application at bud swell up to early bloom for early season disease suppression. Apply before full bloom. Use the higher rates when rainfall is heavy and disease pressure is high. NOTE: To avoid plant injury, do not use after full bloom.
	4 - 8	Cherry Leaf Spot *(Sour Cherries only)*	Apply at petal fall as well as 1 to 2 times after petal fall. Use lower rates where disease infection is light and use the higher rates for a dormant application or where disease infection is moderate to heavy. Do not apply to sweet cherry or the English Morello variety, as severe injury will result. The addition of 1 to 3 pounds of hydrated lime per pound of Copper Hydroxide 50 WP may reduce crop injury. NOTE: Moderate to severe injury, such as leaf spotting and defoliation, may occur from post-bloom applications.
Apple	12 - 16	Anthracnose Blossom Blast European Canker *(Nectria)* Shot Blast *(Pseudomonas)*	Apply before fall rains. Use the higher rates when conditions favor disease. NOTE: Use on yellow varieties may cause discoloration. To avoid, pick before spraying.
	8 – 16	Apple Scab Fire Blight	Make application between silvertip and green-tip. Apply as a full cover spray for early season disease suppression. NOTE: Moderate to severe crop injury may occur from late application; discontinue use when green tip reaches ½ inch.

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Apple (*Extended* spray schedule where fruit finish is not a concern)	2 – 4	Apple Scab	Continued applications may be made at 5 to 7 day intervals or as needed between ½ inch green-tip and first cover spray. NOTE. Moderate to severe crop injury may result from this extended spray schedule. It is not intended for fresh market apples or for apples where fruit finish is a concern as it is likely to cause fruit russetting. The addition of 1 to 3 pounds of hydrated lime per pound of Copper Hydroxide 50 WP may reduce crop injury.
	1 – 2	Fire Blight	
	4	Collar Rot Crown Rot	Mix in 100 gallons of water. Apply 4 gallons of suspension as a drench on the lower trunk area of each tree. Apply in early spring or in fall after harvest for best results. Do not apply to foliage or fruit. NOTE: *Do not use if soil pH is below 5.5 since copper* toxicity may result.
Avocado	8 – 12	Collar Rot Crown Rot	Apply when bloom buds begin to swell and continue application at monthly intervals for five to six applications. Use higher rates when conditions favor disease.
Banana	2	Sigatoka (Black and Yellow)	Apply by air in 3 gallons of water. If needed, agricultural-type spray oil may be added. Apply on a 14-day schedule or as needed throughout the wet season. Apply at 21-day intervals or as needed during dry periods.
	4	Black Pitting	Mix in 100 gallons of water. Apply to the fruit stem and the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence.
Cacao	2 – 8.5	Black Pod	Begin applications at the start of the rainy season and *continue while infection conditions persist. Apply 2 to* 4.5 pounds at 14 to 21 day intervals or as needed depending on disease severity. For drier areas, make two to four applications using 6.5 to 8.5 pounds per acre according to disease incidence and planting density.
Coffee	6 – 8	Coffee Berry Disease *(Colletotrichum coffeanum)*	Apply first spray after flowering and before onset of long rains and then at 21 to 28 day intervals or as needed until picking. Use the higher rates when conditions favor disease.
		Bacterial Blight *(Pseudomonas syringae)*	Begin spray program before the onset of long rainy periods and continue throughout the rainy season at 14 to 21 day intervals or as needed. The critical time of *spraying to control this disease is just before, during,* and after flowering(s) especially when coinciding with wet weather. Use higher rates when rainfall is heavy and disease pressure is high.
	2 – 4	Leaf Rust *(Hemileai vastatrix)*	Apply before the onset of rain and then at 21-day intervals or as needed while the rains continue. Use higher rates when rainfall is heavy and disease pressure is high.
	2	Iron Spot *(Cercospora coffeicola)* Pink Disease *(Corticium salmonicolor)*	Use concentrate or dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for three applications.

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Filbert	16 – 24	Bacterial Blight	Apply as a post harvest spray. In seasons of heavy rainfall apply a second spray when three-fourths of the leaves have dropped. Use higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil may be added.
		Eastern Filbert Blight	Apply as a dilute spray in adequate water for thorough coverage. Make applications starting at bud swell to bud break and continue at 2 week intervals as needed until early May. Thorough coverage is essential. Use higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil or sticking agent may be added.
Mango	8 – 10	Anthracnose	Apply monthly after fruit set until harvest. Use the higher rates when rainfall is heavy and disease pressure is high.
Olive	8 – 12	Olive Knot Peacock Spot	Make first application before winter rains begin. A second application in early spring should be made if disease is severe. Apply higher rates for heavy disease pressure or when conditions favor disease development.
Peach Nectarine	8 – 16	Bacterial Blast *(Pseudomonas)* Bacterial Canker Bacterial Spot *(Xanthomonas)* Coryneum Blight (Shot Hole) Leaf Curl	Make first application before fall rains and a second at late dormant. For peach leaf curl, late dormant application must be made before leaf buds swell. Use higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil may be added.
	8 – 12	Blossom Brown Rot *Coryneum Blight (Shot Hole)* Leaf Curl	Full cover spray at pink bud. Use higher rates when conditions favor disease.
	1	*Bacterial Spot*	Post-bloom application applied at first and second cover sprays. NOTE: Do not spray 3 weeks prior to harvest. Use only recommended rates. Spotting of leaves and defoliation may occur from use in cover sprays.
Pear	1	Fire Blight	Apply at 5-day intervals or as needed throughout the bloom period. NOTE. Russetting may occur in copper sensitive varieties. Excessive dosages may cause fruit russet on any variety.
	12 – 16	Blossom Blast *(Pseudomonas)*	Apply before fall rains and again during dormancy before spring growth starts. Use higher rates when disease pressure is high or when conditions favor disease development.
Pecan	2 – 4	Kernel Rot Shuck Rot *(Phytophthora cactorum)* Zonate Leaf Spot *(Cristulariella pyramidalis)*	For suppression, apply in sufficient water to ensure complete spray coverage at 2 to 4 week intervals or as needed starting at kernel growth and continue until shucks open. Use higher rates and shorter intervals if frequent rainfall occurs.
Pistachio	4 – 8	*Botryosphaeria* Panicle and Shoot Blight Botrytis Blight Late Blight *(Alternaria alternata)* Septoria Leaf Blight	Make initial application at bud swell and repeat on a 14 to 28 day schedule or as needed. If disease conditions are severe, use higher rates and shorter spray intervals.
Quince	1	Fire Blight	Apply at 5-day intervals or as needed throughout the bloom period. Apply in adequate water for thorough coverage.

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Walnut	8 – 12	Walnut Blight	Apply first spray at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage or as needed when frequent rainfall or extended periods of moisture occur. Thorough coverage of catkins, leaves and nutlets is essential for effective control. NOTE: Adequate control may not be obtained when copper tolerant species of *Xanthomonas* bacteria are present.

VEGETABLES

Bean, Beet, Beet Greens, Broccoli, Brussels Sprout, Cabbage, Cantaloupe, Carrot, Cauliflower, Celeriac, Celery, Cucumber, Eggplant, Endive, Escarole, Greens (Collard, Mustard and Turnip), Honeydew, Lettuce, Muskmelon, Onion/Garlic, Pea, Pepper, Pumpkin, Spinach, Squash, Tomato, Watercress and Watermelon

Apply using the following minimum recommended spray volumes:

Aerial Applications - 3 gallons per acre
Ground Dilute Applications - 20 gallons per acre

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Bean (Dry, Green)	1 - 3	Brown Spot Common Blight Halo Blight	For protective sprays, make first application when plants are 6 inches high, repeat on a 7 to 14 day schedule or as needed depending on environmental conditions. Use higher rates for more severe disease.
Beet (Table Beet Beet Greens)	2 - 5	Cercospora Leaf Spot	Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals or as needed. Use higher rates when conditions favor disease.
Carrot	2	Alternaria Leaf Spot Cercospora Leaf Spot	Begin applications when disease first threatens and repeat at 7 to 14 day intervals or as needed depending on disease severity.
Celery Celeriac	2	Bacterial Blight Cercospora Early Blight Septoria Late Blight	Begin applications as soon as plants are first established in the field, repeating at 5 to 7 day intervals or as needed depending on disease severity and environmental conditions.
Crucifers (Broccoli Brussels Sprout Cabbage Cauliflower Collard Greens Mustard Greens Turnip Greens)	1 - 2	Black Leaf Spot *(Alternaria)* Black Rot *(Xanthomonas)* Downy Mildew	Apply at 7 to 10 day intervals or as needed. Begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development. Use higher rates when conditions favor disease. **Note:** Reddening of older leaves may occur on broccoli and a flecking of wrapper leaves may occur on cabbage.
Cucurbits (Cantaloupe Cucumber Honeydew Muskmelon Pumpkin Squash Watermelon)	1.5 - 3	Alternaria Leaf Spot Angular Leaf Spot Anthracnose Downy Mildew Gummy Stem Blight Powdery Mildew Watermelon Bacterial Fruit Blotch†	Begin applications prior to disease development and continue while conditions are favorable for disease development. Repeat at 5 to 7 day intervals or as needed. Use higher rates when conditions favor disease **Note:** Crop injury may occur from application at higher rates and shorter intervals. Discontinue use if injury occurs.
Eggplant	2	Alternaria Blight Anthracnose Phomopsis	Begin applications prior to development of disease symptoms. Repeat sprays at 7 to 10 day intervals or as needed depending on disease severity.

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Lettuce Endive Escarole	1 - 2	Downy Mildew	Begin treatment when disease first appears and repeat every 7 to 10 days or as needed to suppress disease. Use higher rates and shorter intervals when conditions favor disease. **Note:** Flecking and/or yellowing of leaves may occur under certain environmental conditions such as extended periods of moist weather, acid rains, or other conditions favoring reduced pH on leaf surfaces. Injury may be severe enough to reduce crop value.
Onion Garlic	1 – 1.5	Bacterial Blight	Begin when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals or as needed depending on disease severity. Can cause phytotoxicity to leaves.
	2	Downy Mildew Purple Blotch	
Pea	1.5 – 3	Powdery Mildew	Begin applications when disease symptoms first appear and repeat at weekly intervals or as needed. Use higher rates when conditions favor disease.
Pepper	2 – 3	Anthracnose Bacterial Spot Cercospora Leaf Spot	Begin applications when conditions first favor disease development and repeat at 7 to 10 day intervals or as needed depending on disease severity. Use higher rates when conditions favor disease.
Spinach	2 – 3	Anthracnose Blue Mold Cercospora Leaf Spot White Rust	Begin application when disease first appears or when conditions favor disease development. Repeat at 7 to 10 day intervals or as needed. Use higher rates when conditions favor disease. Note: **Flecking may occur on Spinach leaves.**
Tomato	2 – 4	Anthracnose Bacterial Speck Bacterial Spot Early Blight Gray Leaf Mold Late Blight Septoria Leaf Spot	Begin applications when disease first threatens and repeat at 5 to 10 day intervals or as needed depending on disease severity. Use higher rates when conditions favor disease.
Watercress	2	Cercospora Leaf Spot	Begin applications when plants are first established in the field, repeating at 7 to 14 day intervals or as needed depending on disease severity. Do not exceed four applications per crop. Apply using ground spray equipment at no less than 50 gallons of spray solution per acre.

† Suppression only of these diseases.

VINES
Grape, Hops and Kiwi

Apply using the following minimum recommended spray volumes:

Aerial Applications - 5 gallons per acre
Ground Dilute Applications - 150 gallons per acre
Ground Concentrate Applications - 50 gallons per acre

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Grape	2	Black Rot Downy Mildew Phomopsis Powdery Mildew	Begin applications at bud break with subsequent *applications throughout the season depending on* disease severity. **Note:** Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara and Rosette. Either test for sensitivity or add 1 to 3 pounds *of hydrated lime per pound of Copper Hydroxide 50 WP.*
Hops	2	Downy Mildew	Make crown treatment after pruning, but before training. After training, additional treatments are needed at about 10 day intervals. **Note:** Discontinue use two weeks before harvest.
Kiwi	8	*Erwinia herbicola* *Pseudomonas fluorescens* *Pseudomonas syringae*	Apply in 200 gallons of water per acre. Make applications on a monthly basis. A maximum of three applications may be made.

MISCELLANEOUS

Atemoya, Carambola, Chives, Dill, Douglas Fir, Ginseng, Guava, Litchi, Live Oak, Macadamia, Mamey Sapote, Papaya, Parsley, Passion Fruit, Pecan, Sugar Apple and Sycamore

Apply using the following *minimum recommended* spray volumes:

Aerial Applications - 10 gallons per acre
Ground Dilute Applications - 150 gallons per acre
Ground Concentrate Applications - 50 gallons per acre

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Atemoya	3 - 4.5	Anthracnose	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates for severe disease.
Carambola	6 - 9	Anthracnose	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates for severe disease.
Chives	2	Downy Mildew	Begin applications when plants are established in the field. Repeat applications every 7 to 10 days or as needed depending on disease conditions.
Dill	2 - 3	Phoma Leaf Spot Rhizoctonia Foliage Blight	Begin applications when plants are first established in the field and repeat at 7 to 10 day intervals or as needed depending on disease severity and environmental conditions. Use higher rates when conditions favor disease.
Douglas Fir	2 - 3	Rhabdocline Needlecast	Begin applications at bud break and repeat at 3 to 4 week intervals or as needed. Use higher rates for severe disease.
Ginseng	2.5 - 4	Alternaria Leaf Blight Stem Blight	Use as a tank mix with 2 pounds Rovral® 50W in 100 gallons of water. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Begin Copper Hydroxide 50WP-Rovral® applications as soon as plants have emerged in spring. Applications should be repeated every 7 days or as needed until plants become dormant in fall. Apply fungicides at least 8 hours before rain. Use of a spreader-sticker or sticker is advised. **Note:** Alternaria Leaf and Stem Blight is most severe in humid conditions such as those found in the dense canopies to 2 to 4 year old Ginseng. It is very important that the stems be thoroughly covered with fungicide; therefore, use a spray apparatus, which distributes fungicide throughout the canopy.
Guava	3 - 4.5	Anthracnose Red Algae	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates for severe disease.
Litchi	3 - 4.5	Anthracnose	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates for severe disease.

Crop(s)	Application Rate (Lbs. / Acre)	Disease(s) Controlled	Specific Instructions
Live Oak Pecan	6 - 9	Ball Moss	Apply in 100 gallons of water in the spring when ball moss is actively growing using 1-1/2 gallons of spray per foot of tree height. Make sure to wet ball moss tufts thoroughly. A second application may be required after 12 months. **Note:** Copper Hydroxide 50 WP may be injurious to ornamentals grown under Live Oaks or Pecans. This product may be reactive on masonry and metal surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do not spray on cars, houses, lawn furniture, etc.
Macadamia	6 - 9	Anthracnose	Initiate sprays at first sign of flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates for severe disease.
	4.5 - 6	Phytophthora Blight *(P. capsici)* Raceme Blight *(Botrytis cinerea)*	Apply during raceme development and bloom periods. Apply in sufficient water for thorough coverage. Use higher rates when conditions favor disease.
Mamey Sapote	6 - 8	Algal Leaf Spot Anthracnose	Apply when conditions favor disease development. Repeat on 14 to 30 day schedule or as needed as disease severity and environmental conditions dictate. Use higher rates when conditions favor disease.
Papaya	4 - 10	Anthracnose	Apply before disease appears. Apply at 10 to 14 day intervals under light disease pressure and 5 to 7 day intervals or as needed under heavy disease pressure. The addition of an approved spreader is desirable. Use higher rates when conditions favor disease.
Parsley	3	Bacterial Blight *(Pseudomonas* spp.*)*	Begin applications when plants are first established in the field and repeat at 5 to 7 day intervals or as needed depending on disease severity and environmental conditions.
Passion Fruit	6 - 9	Anthracnose	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates when conditions favor disease.
Sugar Apple *(Annona)*	12 - 18	Anthracnose	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates when conditions favor disease.
Sycamore	2 - 3	Anthracnose	Apply as a full cover spray in 100 gallons of water or sufficient volume for thorough coverage. Make first application at bud crack and second application 7 to 10 days later at 10% leaf expansion. Use higher rates when conditions favor disease.

GREENHOUSE AND SHADEHOUSE CROPS

In addition to the specific crops listed below, Copper Hydroxide 50 WP may be used in green houses and shadehouses to control diseases on any crop on this label where physiology allows greenhouse or shadehouse culture. The grower should bear in mind that the sensitivity of crops grown in greenhouses and shadehouses differs greatly from crops grown under field conditions. Neither the manufacturer nor seller has determined whether or not Copper Hydroxide 50 WP can be used safely on all greenhouse and shadehouse grown crops. The user should determine if Copper Hydroxide 50 WP can be used safely prior to commercial use. In a small area, apply the recommended rates to the plants in question, i.e., foliage, fruit, etc., and observe for 7 to 10 days for symptoms of phytotoxicity prior to commercial use.

Apply Copper Hydroxide 50 WP according to specific rates given for those crops in pounds per acres. Two level tablespoons of Copper Hydroxide 50 WP per 1,000 square feet is equivalent to 1 pound per acre. Copper Hydroxide 50 WP should be applied in adequate water for thorough coverage of plant parts. Begin application at first sign of disease and repeat at 7 to 14 day intervals or as needed; use shorter spray intervals during periods when severe disease conditions persist.

Note: When Copper Hydroxide 50 WP is applied to citrus seedlings grown in greenhouses or shadehouses, phytotoxicity may occur on young tender flush.

Crop(s)	Diseases Controlled	Application Rate (Tbs. / 1000 sq. ft.)	Specific Instructions
Citrus (non-bearing nursery)	Brown Rot Citrus Canker Greasy Spot Melanose Pink Pitting Scab	8	Begin applications when disease first threatens. Repeat at 30-day intervals or as needed depending on disease severity.
Cucumber	Angular Leaf Spot Downy Mildew	3 - 6	Apply weekly when plants begin to vine. Use higher rates when conditions favor disease.
Eggplant	Alternaria Blight Anthracnose Phomopsis	4	Begin applications prior to development of disease *symptoms. Repeat sprays at 7 to 10 day intervals or as* needed depending on disease severity.
Pepper	Bacterial Spot	4 - 6	Begin applications when conditions first favor disease development and repeat at 5 to 10 day intervals or as needed depending on disease severity. Use higher rates when conditions favor disease.
Tomato	Anthracnose Bacterial Speck Bacterial Spot Early Blight Gray Leaf Mold Late Blight Septoria Leaf Spot	4 – 8	Begin applications when disease first threatens and repeat at 5 to 10 day intervals or as needed depending on disease severity. Use the higher rates when conditions favor disease.

TURFGRASS

For use to control algae in turfgrass on sod farms, golf courses, cemeteries, home lawns and industrial or municipal turf areas, including parks, playgrounds and athletic fields. Apply 1.5 pounds Copper Hydroxide 50 WP per 1,000 square feet in 5 gallons of water. Copper Hydroxide 50 WP may be used alone or in combination with other registered turf fungicides as a maintenance spray. Observe all *precautions and limitations on the label of each product used in tank mixes.*

Note: Phytotoxicity may occur depending on varietal differences. Apply the recommended rate to a small area and observe for 7 to 10 days for signs of injury. If phytotoxicity occurs, discontinue use. Do not apply in spray solutions with a pH of less than 6.5.

Note: This product may be reactive on masonry and metal surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do not spray on cars, houses, lawn furniture, etc.

Apply using the following minimum recommended spray volumes:

Aerial Applications -	10 gallons per acre
Ground Dilute Applications -	100 gallons per acre
Ground Concentrate Applications -	50 gallons per acre

Use Copper Hydroxide 50 WP for control of bacterial and fungal diseases of foliage, flowers and stems on ornamentals in greenhouses, shadehouses, outdoor nurseries and outdoor landscape plantings.

For ornamental crops in dormancy, apply as a thorough cover spray at rates ranging from1 to 4 pounds per acre Copper Hydroxide 50 WP. When new growth is present, apply as a thorough cover spray at rates ranging from 1 to 3 pounds per acre of Copper Hydroxide 50 WP. Two level tablespoons of Copper Hydroxide 50 WP per 1,000 square feet is equivalent to 1 pound per acre. Begin application at first sign of disease and repeat at 7 to 14 day intervals or as needed; use higher rates and shorter spray intervals during periods of frequent rains or when severe disease conditions persist.

Copper Hydroxide 50 WP may be used alone or in combinations with other fungicides registered for use on ornamentals or as a maintenance spray. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing.

Notice to User: Plant sensitivities to Copper Hydroxide 50 WP have been found to be acceptable for the specific genera and species listed on this label under the conditions tested. However, phytotoxicity may occur. Due to the large number of species and varieties of ornamental and nursery plants, and the wide range of growing conditions, it is impossible to test every one for sensitivity to Copper Hydroxide 50 WP. Neither the manufacturer nor seller has determined whether or not Copper Hydroxide 50 WP can be safely used on ornamental or nursery plants not listed on this label. The user should determine if Copper Hydroxide 50 WP can be used safely prior to commercial use. In a small area, apply the recommended rates to the plants in question, i.e., bedding plants, foliage, etc., and observe for 7 to 10 days for symptoms of phytotoxicity prior to commercial use.

NOTE: This product may be reactive on masonry and metal surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do not spray on cars, houses, lawn furniture, etc.

Crop	Scientific Name	Disease(s)
Aglaonema	Aglaonema spp.	Bacterial Leaf Spot
Althea (Rose of Sharon)	Hibiscus syriacus	Bacterial Leaf Spot
Andromeda, Japanese	*Pieris japonica*	Leaf Spots Twig Blight
Aralia	*Dizygotheca elegantissima*	Alternaria Cercospora Leaf Spot Xanthomonas Leaf Spot
Arborvitae	*Thuja* spp.	Alternaria Twig Blight Cercospora Leaf Blight
Aster	Aster spp.	Downy Mildew Leaf Spots
Azalea[1]	Rhododendron spp.	Botrytis Blight Cercospora Leaf Spot Phytophthora Dieback Powdery Mildew
Beech	Fagus spp.	Leaf Spots
Begonia	Begonia semperflorens	Bacterial leaf Spot (*Erwinia* spp. *Pseudomonas* spp. *Xanthomonas* spp.)
Bougainvillea	*Bougainvillea spectabilis*	Anthracnose Bacterial Leaf Spot
Boxwood	*Buxus* spp.	Leaf Spots
Camellia	*Camellia japonica* *C. sasanqua*	Anthracnose Bacterial Leaf Spot
Camphor Tree	*Cinnamomum camphora*	Pseudomonas Leaf Spot

Crop	Scientific Name	Disease(s)
Canna	*Canna* spp.	Pseudomonas Leaf Spot
Carnation[1]	*Dianthus* spp.	Alternaria Blight Botrytis Blight Pseudomonas Leaf Spot
Cedar	*Cedrus* spp.	Tip Blight
Chinese Tallow Tree	*Sapium sebiferum*	Bacterial Leaf Spot (*Pseudomonas* spp. *Xanthomonas* spp.)
Chrysanthemum[1]	*Chrysanthemum morifolium*	Botrytis Blight Pseudomonas Leaf Spot Septoria Leaf Spot
Cotoneaster	*Cotoneaster* spp.	Botrytis Blight
Crabapple	*Malus* spp.	Fire Blight
Cypress	*Cupressus* spp.	Twig Blight
Dahlia	Dahlia pinnata	Alternaria Leaf Spot Botrytis Gray Mold Cercospora Leaf Spot
Delphinium	*Delphinium* spp.	Leaf Spots
Dianthus	*Dianthus* ssp.	Bacterial Soft Rot Bacterial Spot
Dogwood, Flowering	*Cornus florida*	Anthracnose
Dogwood, Kousa	*Cornus kousa*	Fungal Leaf Spots
Douglas Fir	*Pseudotsuga menziesii*	Rhabdocline Needlecast
Dracaena	*Dracaena marginata*	Bacterial Leaf Spot
Dumb Cane	*Dieffenbachia* spp.	Bacterial Leaf Spot
Dusty Miller	*Senecio cineraria*	Bacterial Leaf Spot (*Pseudomonas cichorii*)
Echinacea	*Echinacea* spp.	Bacterial Leaf Spot (*Pseudomonas cichorii*)
Elm, Chinese	*Ulmus parvifolia*	Xanthomonas Leaf Spot
Euonymus	*Euonymus* spp.	Anthracnose Botrytis Blight
Fern, Boston	*Nephrolepis exaltata*	Bacterial Leaf Spot
Fern, Holly	*Cyrtomium falcatum*	Pseudomonas Leaf Spot
Fig, Weeping	*Ficus benjamina*	Bacterial Leaf Spot
Filbert (Ornamental)	*Corylus* spp.	Filbert Blight
Gardenia	*Gardenia jasminoides*	Alternaria Leaf Spot Botrytis Bud Rot Cercospora Leaf Spot
Geranium	*Pelargonium* spp.	Alternaria Leaf Spot Botrytis Gray Mold Cercospora Leaf Spot
Gladiola	*Gladiolus* spp.	Alternaria Leaf Spot Anthracnose Bacterial Leaf Blight Botrytis Gray Mold
Golden Rain Tree	*Koelreuteria paniculata*	Bacterial Leaf Spot
Grape Ivy	*Cissus* spp.	Bacterial Leaf Spot
Hawthorn	*Crataegus* spp.	Fire Blight
Hibiscus[4]	*Hibiscus* spp.	Bacterial Leaf Spot

Crop	Scientific Name	Disease(s)
Holly	*Ilex* spp.	Bacterial Blight Leaf Spot
Honeylocust	*Gleditsia triacanthos*	Bacterial Leaf Spot
Honeysuckle, Tatarian	*Lonicera tatarica*	Bacterial Leaf Spot
Impatiens	*Impatiens sallerana*	Bacterial Leaf Spot
Indian Hawthorn [5]	*Raphiolepis indica*	*Anthracnose* Entomosporium Leaf Spot
Iris [6]	*Iris* spp.	Bacterial Leaf Spot
Ivy (English, Algerian) [1]	*Hedera helix* *H. canariensis*	Xanthomonas Leaf Spot
Ixora	*Ixora coccinea*	Xanthomonas Leaf Spot
Juniper	*Juniperus* spp.	Anthracnose Twig Blight
Lantana	*Lantana camera*	Bacterial Leaf Spot
Leyland Cypress	*X Cupressocyparis leylandii*	Cercospera Needle blight
Lilac	*Syringa* spp.	*Cercospora Leaf Spot* Pseudomonas Blight
Lily, Easter [2]	Lilium longiflorum	Botrytis Blight
Linden	*Tilia* spp.	Anthracnose Leaf Blight
Loblolly Bay	*Gordonia lasianthus*	Anthracnose
Loquat	*Enobotrya japonica*	*Colletotrichum* spp. *Entomosporium maculate*
Magnolia (Southern)	*Magnolia grandiflora*	Algal Leaf Spot Anthracnose Bacterial Leaf Spot
Magnolia (Sweetbay)	*Magnolia virginiana*	Anthracnose
Magnolia (Oriental)	*Magnolia soulangiana*	Bacterial Leaf Spot
Mandevilla	*Mandevilla* spp.	Anthracnose
Maple	*Acer* spp.	Pseudomonas Leaf Blight
Mar gold	*Tagetes* spp.	Alternaria Leaf Spot Botrytis Leaf Rot Cercospora Leaf Spot Flower Rot
Mountain-Ash	*Sorbus* spp.	Fire Blight
Mulberry, Contorted	*Morus bombycis*	Bacterial Leaf Spot
Mulberry, Weeping	*Morus alba*	Bacterial Leaf Spot
Narcissus	*Narcissus* spp.	Leaf Blight
Nephthytis	*Syngonium podophyllum*	Bacterial Leaf Spot
Oak	*Quercus* spp.	Leaf Spot
Oak, Laurel	*Quercus laurifolia*	Algal Leaf Spot (*Cephaleuros virescens*)
Oleander	*Nerium oleander*	Bacterial Leaf Spot Fungal Leaf Spot
Oregon Grapeholly	*Mahonia acquifolium*	Leaf Spots
Pachysandra	*Pachysandra procumbens*	Volutella Leaf Blight
Palm, Date	*Phoenix canariensis*	Pestalotia Leaf Spot
Palm, European Fan	*Chamaerops humilis*	Pestalotia Leaf Spot

Crop	Scientific Name	Disease(s)
Palm, Parlor	*Chamaedorea elegans*	Bacterial Leaf Spot
Palm, Queen	*Arecastrum romanzoffianum*	Exosporium Leaf Spot Phytophthora Bud Rot
Palm, Washingtonia	*Washingtonia robusta*	Pestalotia Leaf Spot
Peach (Flowering)[3]	*Prunus* spp.	Bacterial Blast Brown Rot Fire Blight
Pear (Flowering)	*Pyrus calleryana*	Fire Blight Leaf Spots
Pentas (Egyptian Star)	*Pentas* spp.	Bacterial Leaf Spot (*Xanthomonas* spp.)
Peony	*Paeonia* spp.	Botrytis Blight
Periwinkle	*Catharanthus roseus* *Vinca* spp.	Phomopsis Stem Blight
Philodendron	*Philodendron selloum*	Bacterial Leaf Spot
Phlox	*Phlox* spp.	Alternaria Leaf Spot
Photinia (Red Tip)	*Photinia x fraseni* *P. glabra*	Anthracnose Entomosporium Leaf Spot
Pine	*Pinus* spp.	Needlecasts
Pistachio	*Pistacia chinensis*	Anthracnose
Plantain Lily[6]	*Hosta* spp.	Bacterial Leaf Spot
Plum (Flowering)[3]	*Prunus* spp.	Bacterial Blast Bacterial Leaf Spot Brown Rot Fire Blight
Pothos	*Scindapsus* spp.	Bacterial Leaf Spot
Powder Puff Plant	*Calliandra* spp.	Bacterial Leaf Spot
Pyracantha	*Pyracantha* spp.	Fire Blight Scab
Rhododendron	*Rhododendron* spp.	Alternaria Flower Spot
Rose[1]	*Rosa* spp.	Black Spot Powdery Mildew
Snapdragon	*Antirrhinum majus*	Anthracnose Dieback Downy Mildew
Spathe Flower	*Spathiphyllum* spp	Bacterial Leaf Spot
Spirea	*Spiraea* spp.	Fire Blight
Spruce	*Picea* spp.	Needlecasts
Sycamore	*Platanus* spp.	Anthracnose Leafspot
Tulip	*Tulipa* spp.	Anthracnose Botrytis Blight
Umbrella Tree	*Schefflera* spp.	Bacterial Leaf Spot
Verbena	*Verbena* spp.	Xanthomonas Leaf Spot
Viburnum	*Viburnum odoratissimum* *V. Plicatum* *V. suspensum*	Anthracnose
Viola (Pansy, Violet)	*Viola* spp.	Downy Mildew
Willow	*Salix* spp.	Anthracnose
Yew	*Taxus* spp.	Needle Blight

Crop	Scientific Name	Disease(s)
Yucca (Adam's Needle)	*Yucca* spp.	Cercospora Leaf Spot Septoria Leaf Spot
Zinnia	*Zinnia* spp.	Leaf Spots

[1] Discoloration of foliage and/or blooms has been noted on some varieties. To prevent residues on commercial plants, do not spray immediately before selling season.

[2] Apply Copper Hydroxide 50 WP at 3 to 5 pounds per acre.

[3] Apply dormant through bloom only.

[4] Hibiscus – Do not apply to plants in flower.

[5] For Indian Hawthorn, use 2 to 4 pounds per acre.

[6] Some cultivars may be sensitive to Copper Hydroxide 50 WP.

Note: Phytotoxicity may depend on varietal differences. If unfamiliar with the use of Copper Hydroxide 50 WP, apply the recommended rate to a few plants and observe after 7 to 10 days for symptoms of phytotoxicity.

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