



U.S. ENVIRONMENTAL PROTECTION
AGENCY

Office of Pesticide Programs
Registration Division (7504P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

NOTICE OF PESTICIDE:

☐ Registration
☒ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:

42750-132

Date of Issuance:

AUG 02 2010

Term of Issuance:

Name of Pesticide Product:

NU-COP XLR

Name and Address of Registrant (include ZIP Code):

Albaugh, Inc.
1525 NE 36th Street
Ankeny, Iowa 50021

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 reregistered in accordance with FIFRA provided that you:

1) Submit and/or cite all data required for registration/reregistration review of your product when the Agency requires all registrants of similar products to submit data.

Signature of Approving Official:

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

Date:

AUG 02 2010

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2) Change the EPA Reg. # to 42750-132. Place the First Aid section in a box. Update the Container Disposal language on page 4 to comply with PR Notice 2007-4. Delete "general" from "general instructions" and "general chemigation instructions".

3) You must either delete the apple (crown or collar rot) section on page 10, or specify a treatment size area to comply with apply 8.0 lbs ai of copper/acre (only 1 application per season permitted if this is a dormant application treatment).

4) You must either delete the live oak section or specify an area to be treated for the use directions **to treat mosses, algae and lichen in pecans, *Phytophthora* foot rot in citrus and ball moss in live oak**, and this must be in compliance with the copper RED.

5) 1 tablespoon of product per 1000 square feet is equal to .9 lbs of product per acre instead of the text "1.5 tablespoons of Nu-Cop XLR per 1000 square feet is equivalent to 1 pound per acre" as listed in the Greenhouse and Shadehouse section of the label. This must be changed.

6) As specified in the acute toxicity review, a phone number for emergency medical treatment information should be added to the label.

7) Per the acute toxicity review, the Hazards to Humans and Domestic Animals must be revised to read:

"DANGER

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing dust."

8) The text "protective eyewear" appearing in the handler PPE section must be revised to read "goggles or faceshield."

9) Per the RED label table, the text in **bold type** below must be added to the following User Safety Requirements:

"...If no such instructions for washables **exist**, use detergent and hot water..."

10) Per the revised RED label table, the Environmental Hazard statements must be revised to read:

"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 washwaters or rinsate."

11) Per the revised RED label table, the following text must be added to the Agricultural Use Requirements box:

"For at least seven days following the application of copper-containing products in greenhouses:
-at least one container or station designed specifically for flushing eyes is available in operating condition with the WPS-required decontamination supplies for workers entering the area treated with copper-containing products,

-workers are informed orally, in a manner they can understand:

- that residues in the treated area may be highly irritating to their eyes,
- that they should take precautions, such as refraining from rubbing their eyes, to keep the residues out of their eyes,
- that if they do get residues in their eyes, they should immediately flush their eyes with the eye flush container that is located with the decontamination supplies and
- how to operate the eye flush container or eye flush station."

12) Per the RED, the entry restriction text appearing in the Non-Agricultural Use Requirements box must be revised to read "Do not enter or allow others to enter until sprays have dried."

13) The text "Sprays of Nu-Cop XLR may be applied up to 24 hours preharvest due to REI for Worker Protection Standard" appearing on the top of Page 4 of the label is unacceptable and must be deleted from the label. The REI for this product is 48 hours. There is no relation between REI and the preharvest interval.

14) Spray drift text must be added to the label and must read:

"Spray Drift Management

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and the 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.

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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.

For aerial application:

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.

For groundboom application:

Do not apply with a nozzle height greater than 4 feet above the crop canopy."

15) The following revisions are needed to the directions for use:

Almonds:

The text "or as many as required" must be deleted from the text in the comment section that states "...apply 2-4 sprays or as many as required at 1.0-3.0 lbs per acre..."

Eggplant:

Delete "or as needed" from the comment section that states "Repeat sprays at 7 to 10 day intervals or as needed depending on disease severity."

Filberts:

Add "Permitted only in Washington and Oregon" to the use directions.

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Papaya:

The maximum single application rate must be revised to a metallic copper amount of 2.63 lbs Cu equivalent (or 5.26 lbs of product) per acre.

Peaches and Nectarines:

The retreatment interval must be revised to 7 days for the use to treat brown rot blossom blight at pink bud.

Greenhouse and shadehouse crops:

The text "or as needed" must be replaced with the appropriate minimum retreatment interval for each crop listed on the label. The rate restrictions for each crop, as required in the RED, must be added to the label and rates in excess of the maximum allowable rate must be revised.

Ornamentals:

An area treated must be specified and the rates must comply with the maximum allowable rates listed in the RED (2.0 lbs. ai/application and 20.0 lbs. ai/year).

16) Change "inert ingredients" to "other ingredients".

A stamped copy of the label is enclosed for your records. You must submit one copy of the final printed label before you release the product for shipment. Products shipped after 12 months from the date of this letter or the next round of printing must bear the new revised label. If these EPA conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA. Your release for shipment of the product constitutes acceptance of these EPA Reg. conditions. This label supersedes all other previously accepted labels. If you have any questions please call Erik Kraft at 703-308-9358 or email at Kraft.Erik@epa.gov.

Enclosure: Product Chemistry Review
Acute Toxicology Review

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EDITOR's NOTE: 8/1/08 "marked" draft label for Copper RED 8-Month Response

NU-COP XLR
FUNGICIDE/BACTERICIDE

ACCEPTED
with COMMENTS
In EPA Letter Dated:
AUG 02 2010

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No. . . . 77.0%
23.0%
100.0%

ACTIVE INGREDIENT:

Cupric Hydroxide*

INERT INGREDIENTS:

TOTAL:

42750-132

(*Metallic Copper Equivalent - 50%)

*CAS No. 20427-59-2

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 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Call a poison control center or doctor for further 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 the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING:

- 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.

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

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate use of gastric lavage.

SEE BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

EPA Reg. No. ~~45002-132~~

EPA Est. No. 45002-MEX-02

NET CONTENTS:

Manufactured For:
Albaugh Inc.
Ankeny, IA

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PRECAUTIONARY STATEMENTS

DANGER

Hazards To Humans And Domestic Animals

Corrosive. Causes irreversible eye damage. May cause skin sensitization reactions in certain individuals. Do not get in eyes or on clothing. Harmful if swallowed or absorbed through the skin. Avoid contact with skin.

PERSONAL PROTECTIVE EQUIPMENT

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

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, PVC and viton. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

1. Long-sleeved shirt and long pants
2. Chemical-resistant gloves made of any waterproof material
3. Shoes plus socks
4. Protective eyewear

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

- 1. Long-sleeved shirt and long pants**
- 2. Chemical resistant gloves made of any waterproof material**
- 3. Shoes plus socks**
- 4. 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:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove personal protective equipment **clothing/PPE** immediately if pesticide gets inside. Then wash thoroughly and change into clean clothing.
3. **Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.**

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. 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 washwaters.

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. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Certain water conditions including low pH (<6.5), low dissolved organic carbon (DOC) levels (3.0

mg/L or lower), and "soft" waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms.

DIRECTIONS FOR USE

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval (REI). 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 24 hours.~~

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours provide the following instructions are followed.

~~The following equipment and precautions must be followed for 7 days following the application of the 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
- 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 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.

Do not enter treated areas without protective clothing until sprays have dried.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, secure, dry area in original container.

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.

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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.

GENERAL INSTRUCTIONS

NU-COP XLR may be applied by Air, or by Dilute or Concentrated Ground Sprayers, or Chemigation on crops and at rates given on this label unless specifically prohibited for that crop use. When selecting a use rate for NU-COP XLR, do not apply less than the label recommended minimum amount. Under heavy disease pressure or when conditions favor such, use the higher rate and shorter spray intervals specified for each crop. Use the higher rates for large mature tree crops. The per acre use rate is applicable for both dilute and concentrate spraying.

Sufficient spray volume and spray pressure are essential to thoroughly penetrate the plant canopy and give thorough spray coverage. On crops sensitive to copper fungicides use the higher volumes of spray water per acre. When making a concentrate or aerial application without specific experience, it is advisable to test for crop tolerance prior to full scale use.

While volume is important in obtaining full spray coverage, other factors such as foliage density, environmental conditions and spray calibrations, 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 using adjuvants or other pesticides in combination with this product, always observe the precautionary statements on the product's label and required days before harvest. Sprays of NU-COP XLR may be applied up to 24 hours preharvest due to REI for Worker Protection Standard. Before mixing with other products in spray tank, be sure that products are compatible. If compatibility is in question, use the compatibility jar test before mixing a whole tank.

NU-COP XLR should not be applied in spray water having a pH of less than 6.5 as phytotoxicity may result. Use a buffering agent to increase the pH to 6.5-7.0 if your water source is below 6.5. Also avoid using water having a pH of greater than 9.0 as effectiveness may be reduced. 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 NU-COP XLR resulting in possible phytotoxicity or loss of effectiveness.

Agricultural chemicals may perform in an unpredictable manner when tank mixed, especially where several products are involved. Reduced effect on pests or crop injury may occur. Unless recommended on this label or by state/local expert, it is advisable to test for compatibility and tolerance to crop injury prior to full scale commercial utilization of a new tank mix or tank mixing should not be undertaken.

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

MIXING INSTRUCTIONS FOR SPRAY APPLICATION

Fill the spray tank three-fourths to four-fifths full with clean water. Start agitation (NOTE: Proper agitation creates a rippling or rolling action on the liquid surface). Add NU-COP XLR at the recommended rate.

Mix thoroughly and then add enough water to fill spray tank. Maintain sufficient agitation during mixing and during application of sprays to ensure a uniform spray mixture. When tank mixing with other products, follow the mixing sequence below: (1) micronutrients and fertilizers, (2) wettable powders, dry flowables, and water dispersible granules, (3) liquid flowables, (4) emulsifiable concentrates, and (5) adjuvants. Before adding the second pesticide, be sure that the prior product is well mixed and suspended before adding the next ingredient.

MINIMUM RECOMMENDED SPRAY VOLUME IN GALLONS PER ACRE (GPA)

A full dilute spray on tree crops means the maximum amount of spray when uniformly applied that an acre of such

trees will hold to the point that excess spray begins to drip off. Thus the dilute spray volume per acre will depend on tree size and leaf surface per acre. The following listed dilute spray volumes is the volume that will generally provide such coverage on average size of full leafed trees. A concentrate spray is a spray applied in less volumes than a dilute. The extent of the concentration varies by equipment used. Thus the following spray volumes for a concentrated spray are the minimum volumes recommended per acre.

Use NU-COP XLR as noted below unless indicated otherwise in the specific crop directions. NU-COP XLR is adaptable to spraying from aircraft and ground spraying equipment. Depending on the equipment used and the specific crop, the volume applied per acre will differ. Refer to recommended volumes below:

	Aerial	Ground	
		Dilute	Concentrate
Vegetables and Field Crops	3	20	
Small Fruits	5	150	50
Vines	5	150	50
Fruit and Nut Trees*	10	400	50
Citrus	10	800	100 (20 FL)**

*On young fruit trees, use a minimum of 1 gallon spray per acre.

**Pesticide application equipment such as Curtéc or other similar sprayers which are capable of obtaining thorough coverage at low volumes may be used at as low as 20 GPA of spray volume.

GENERAL CHEMIGATION INSTRUCTIONS

Do not apply this product through any irrigation 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.

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

Crop injury or lack of effectiveness can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

A. Center Pivot, Traveler, Big Gun, Motorized Lateral Move, End Tow, and Side (Wheel) Roll Irrigation Equipment: Operate system and injection equipment at normal pressures recommended by the manufacturer of injection equipment used. Fill tank or injection equipment with water. Operate system for one complete circle for center pivot or one complete run for the other recommended equipment, measuring time required, amount of water injected, and acreage contained in circle or run. Mix recommended amount of product for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run, but continue to operate irrigation system until the product has been cleared from last sprinkler head. Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur.

B. Solid Set and Hand Move Irrigation Equipment: Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of product for acreage to be covered into quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. Provide constant mechanical agitation in the mix tank to insure that the product will remain in suspension during the injection cycle. This product can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until pesticide is cleared from last sprinkler head.

SAFETY DEVICES

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

SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

Public water systems means a system for the provision to the public of piped water for human consumption if such a 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 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. 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 additional instructions on safety precautions refer to statements (2), (3), (4), (6), and (7) in the section on SAFETY DEVICES.

POSTING INSTRUCTIONS

Posting of areas to be chemigated is required when 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 when 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. This sign is in addition to any sign posted to comply with the Worker Protection Standard. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other 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 posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of material 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.

CROPS

The following specific instructions are based on general application procedures. The recommendations of the State Agricultural Extension Service should be closely followed as to timing, frequency and number of sprays per season.

FROST INJURY PROTECTION:

Bacterial Ice nucleation inhibitor - Application of NU-COP XLR made to all crops listed on this label at rates and stages of growth indicated on this label at least 24 hours prior to anticipated frost conditions will afford control of ice nucleating bacteria (*Pseudomonas syringae*, *Erwinia herbicola*, and *Pseudomonas fluorescens*) and may thereby provide some protection against light frost. The degree of frost protection will vary with weather conditions and other factors. Not recommended for those geographical areas where weather conditions favor severe frost.

CROP	DISEASE	RATE lbs/A	COMMENTS
Alfalfa	Cercospora & Leptosphaerulina Leaf Spots	1	Apply 10 to 14 days before each harvest or earlier if disease threatens. NOTE: Spray injury may occur with sensitive varieties such as Lahontan.

ALFALFA			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Cercospora & Leptosphaerulina Leaf Spots</u>	<u>0.5 - 1.0</u>	<u>30 Days</u>	<u>Apply 10 to 14 days before each harvest or earlier if disease threatens.</u> <u>Apply with ground or aerial equipment.</u> <u>Spray injury may occur with sensitive varieties such as Lahontan.</u>
<u>RESTRICTIONS:</u> <u>Maximum single application rate is 1.0 lb/A (0.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 2.0 lb/A (1.0 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Almonds	Coryneum Blight, Blossom-Brown Rot	4-6	Dormant application: Apply before foliage buds begin to swell. Use higher rates when rainfall is heavy and disease pressure is high.
		3-4	Early bloom (popcorn) application: Apply before full bloom. Use higher rates when rainfall is heavy and disease pressure is high. NOTE: To avoid plant injury, do not use above rate after full bloom.
	Bacterial blast (Pseudomonas)	6-8	Apply at dormant to early pink bud. For control in sprinkler irrigated orchards or where disease is severe, apply 1 lb. per acre at 2 week post-bloom intervals or just before sprinkling. NOTE: Injury may occur from post-bloom sprays, especially on Neplus varieties.

ALMONDS			
DISEASE	APPLICATION RATE (lbs/Acre)	MINIMUM DAYS RETREATMENT INTERVAL	COMMENT
<u>Dormant to Pink Bud Season:</u> <u>Bacterial Blast (Pseudomonas)</u> <u>Coryneum Blight (Shot hole)</u>	4.0 – 8.0	7	<u>Use at dormant to early pink bud.</u> <u>For blast control in sprinkler irrigated orchards or where disease is severe, apply 2-4 sprays or as many as required at 1.0 – 3.0 lbs per acre at 2 week post-bloom intervals or just before sprinkling.</u> <u>Slight leaf injury may occur from post-bloom spray.</u>
<u>Bloom/Growing Season:</u> <u>Coryneum Blight</u> <u>Blossom Brown Rot</u>	3.0	5	<u>Use during the early bloom stage (popcorn).</u> <u>A second application in late dormant before foliage buds swell may be necessary when frequent rainfall occurs.</u> <u>To avoid plant injury, do not use after full bloom.</u>
RESTRICTIONS <u>Maximum single dormant application rate is 16.0 lbs/A (8.0 lbs. metallic copper equivalent)</u> <u>Maximum single bloom/growing application rate is 3.0 lbs/A (1.5 lbs. metallic copper equivalent)</u> <u>Maximum annual application rate is 36.0 lbs/A (18.0 lbs metallic copper equivalent)</u>			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Apples	Anthracnose Pseudomonas European Canker	6-8	Apply before fall rains. Use higher rates under severe disease conditions. NOTE: Use on yellow varieties may cause discoloration. To avoid, pick before spraying.
	Fire Blight	4-8	Make application between silver tip and green tip. Apply as a full cover spray. NOTE: Crop injury may occur from late application, discontinue use when green tip reaches 1/2 inch.
	Crown or Collar Rot	2	Mix 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 late fall after harvest. NOTE: Do not use if soil pH is below 5.5 since copper toxicity may result.

APPLES			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Fall & Late Dormant:</u> <u>Anthracnose</u> <u>European Canker</u> <u>Pseudomonas Syringae</u>	<u>6.0 – 8.0</u>	<u>Only one dormant application allowed per season</u>	<u>Apply before fall rains.</u> <u>Use on yellow varieties may cause discoloration. To avoid, pick before spraying.</u>
<u>Fireblight</u>			<u>Make application between silver-tip and green-tip.</u> <u>ATTENTION: Phytotoxicity may occur from late application (Discontinue use when green-tip is 1/2 inch.)</u>
<u>Bloom & Growing Season:</u> <u>Fireblight</u>	<u>1.0</u>	<u>5</u>	<u>Extended spray schedule where fruit finish is not a concern. Continued applications may be made at 5 – 7 day intervals.</u> <u>NOTE: Crop injury may occur from extended spray schedule. Not intended for fresh market apples due to possible russetting. The addition of 1 – 3 lbs of lime per pound of Blue Shield DF may reduce injury.</u>

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APPLES			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Crown or Collar Rot</u> <u>(Phytophthora cactorum)</u>	<u>N/A</u>	<u>5</u>	<p><u>Apply either in early spring or in fall after harvest each year.</u></p> <p><u>Do not use if soil pH is below 5.5 or copper toxicity may result.</u></p> <p><u>Mix 4 lbs in 100 gallon of water. Apply 4 gallons of suspension as a drench on the lower trunk area of each tree.</u></p>
<u>RESTRICTIONS</u> <u>Maximum single dormant season application rate is 16.0 lbs/A (8.0 lbs. metallic copper equivalent)</u> <u>Maximum single growing season application rate is 1.0 lbs/A (0.5 lbs. metallic copper equivalent)</u> <u>Maximum annual application rate is 32.0 lbs/A (16 lbs. metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Apricots	Coryneum Blight (Shot Hole); Blossom Brown Rot	4-6	Apply at popcorn to full bloom and use higher rate when conditions favor disease. NOTE: Applications applied after bloom will result in crop injury.

APRICOTS			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Fall & Late Dormant:</u> <u>Anthracnose</u> <u>European Canker</u> <u>Pseudomonas Syringae</u>	<u>6.0 – 12.0</u>	<u>Only one dormant application allowed per season</u>	<p><u>Apply before fall rains.</u></p> <p><u>Use the higher rates when conditions favor disease.</u></p> <p><u>Use on yellow varieties may cause discoloration. To avoid, pick before spraying.</u></p>
<u>Bloom/Growing Season:</u> <u>Coryneum Blight (Shot Hole)</u> <u>Blossom Brown Rot</u>	<u>3.0</u>	<u>5</u>	<p><u>Apply at popcorn to full bloom as a full cover spray.</u></p> <p><u>To avoid spray injury, do not apply after full bloom.</u></p>
<u>RESTRICTIONS</u> <u>Maximum single dormant application rate is 16.0 lbs/A (8.0 lbs. metallic copper equivalent)</u> <u>Maximum single bloom/growing application rate is 3.0 lbs/A (1.5 lbs. metallic copper equivalent)</u> <u>Maximum annual application rate is 36.0 lbs/A (18.0 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Atemoya (Not for use in CA)	Anthracnose	1.5	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.

EDITOR's NOTE: Atemoya added to Sugar Apple table

CROP	DISEASE	RATE lbs/A	COMMENTS
Avocados	Anthracnose, Blotch, Scab	4-6	Apply when bloom buds begin to swell and continue applications at monthly intervals for 5 to 6 applications. Use higher rate when conditions favor disease.

AVOCADOS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthracnose, Blotch, Scab</u>	<u>4.0 – 6.3</u>	<u>14</u>	<p><u>Apply when bloom buds begin to swell.</u></p> <p><u>Continue application at 14 – 28 day intervals for 5 to 6 applications.</u></p> <p><u>Use higher rate when conditions favor disease.</u></p>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 6.3 lbs/A (3.15 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 37.8 lbs/A (18.9 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Bananas	Sigatoka	1	Apply by air in 3 - 10 gallons of water containing 0.5 gallon agricultural oil. Apply on a 14 day schedule throughout the wet season. Apply at 21 day intervals during dry periods.
	Black Pitting	2	Apply in 100 gallons of water (4 pounds per acre) directly to the fruit stem and include the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence.

BANANAS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Sigatoka (black and yellow)</u>	<u>1.0 - 2.1</u>	<u>7</u>	<u>Apply by air at 2.1 lbs. per acre in 3 gallons of water containing 0.5 gallon agricultural oil. Apply on a 7 - 14 day schedule throughout the wet season.</u> <u>Apply at 14 - 21 day intervals during dry periods.</u>
<u>Black Pitting</u>	<u>2.1</u>	<u>7</u>	<u>Dilute in 50 - 100 gallons of water and apply directly to the fruit stem and include the basal portion of the leaf crown.</u> <u>Apply during the first and second weeks after emergence.</u>
RESTRICTIONS			
Maximum single application rate is 2.1 lbs/A (1.05 lbs metallic copper equivalent)			
Maximum annual application rate is 37.8 lbs/A (18.9 lbs metallic copper equivalent)			

CROP	DISEASE	RATE lbs/A	COMMENTS
Beans	Bacterial Blight (Halo and Common); Brown Spot	0.5 - 1.5	Use the higher rate for more severe disease. For protective sprays make first application when plants are six inches high. Repeat on a 7-14 day schedule depending on local conditions.

BEANS (Dry, Green)			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Bacterial Blight (Halo & Common)</u> <u>Brown spot</u>	<u>0.5 - 1.5</u>	<u>7</u>	<u>For protective sprays apply first application when plants are five to six inches high. Apply on 7 - 14 day schedule depending on local conditions. Use higher rate for more severe disease pressure.</u>
RESTRICTIONS			
Maximum single application rate is 1.5 lbs/A (0.75 lbs. metallic copper equivalent)			
Maximum annual application rate is 9.0 lbs/A (4.5 lbs metallic copper equivalent)			

CROP	DISEASE	RATE lbs/A	COMMENTS
Blackberries (Santiams, Logans, Boysens, Marions, Auroras, Cascades, Chehalems, and Thornless Evergreens)	Leaf & Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, Pseudomonas Blight	2	Make fall application after harvest. Apply delayed dormant spray after pruning/training in spring. Add 1 quart of crop oil per acre.
	Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust	1	Apply when leaf buds begin to open and repeat when flower buds show white. 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 application if signs of crop injury appear.

BRAMBLES (Blackberry, Santiams, Logans, Boysens, Marions, Auroras, Cascades, Chehalems, Raspberry & Thornless Evergreens)			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthracnose, Leaf & Cane Spot, Purple Blotch, Yellow Rust</u>	<u>2.0 - 4.0</u>	<u>7</u>	<u>Make fall spray application after harvest.</u> <u>Apply delayed dormant spray after pruning/training in spring.</u>
	<u>1.0 - 2.0</u>	<u>7</u>	<u>Apply when leaf buds begin to open and repeat when flower buds show white.</u> <u>NOTE: Crop injury may occur if applied to foliage under hot or moist environmental conditions. Discontinue applications if injury noted.</u>
RESTRICTIONS Maximum single application rate is 4.0/A (2.0 lbs metallic copper equivalent) Maximum annual application rate is 20.0 lbs/A (10.0 lbs metallic copper equivalent)			

CROP	DISEASE	RATE lbs/A	COMMENTS
Blueberries (Not for use in CA)	Bacterial canker	3	Make first application before fall rains and a second application four weeks later.

BLUEBERRIES			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Bacterial Canker</u>	<u>3.0</u>	<u>7</u>	<p>Make first application before the fall rains, preferably the first week in October and a second application 4 weeks later.</p> <p>Use higher rate when conditions favor disease.</p>
RESTRICTIONS Maximum single application rate is 4.2/A (2.1 lbs metallic copper equivalent) Maximum annual application rate is 16.8/A (8.4 lbs metallic copper equivalent)			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Greens (Beet, Collard, Mustard and Turnip)	Black Rot (Xanthomonas), Black Leaf Spot (Alternaria), Downy Mildew (Peronospora)	0.5- 1.0	Apply at 7 to 10 day intervals. For control of disease of these crops 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 rate when conditions favor disease. NOTE: Reddening of older leaves may occur on Broccoli and a flecking of wrapper leaves may occur on cabbage.

<u>CRUCIFERS (Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collard Greens, Mustard Greens, & Turnip Greens)</u>			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Downy Mildew</u> <u>Black Rot</u> <u>(Xanthomonas)</u> <u>Black Leaf Spot</u> <u>(Alternaria)</u>	<u>0.5 - 1.0</u>	<u>7</u>	<u>Begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development.</u> <u>Use higher rate when conditions favor disease.</u> <u>(CAUTION: A slight reddening of older leaves may occur on broccoli, and a slight flecking of wrapper leaves may occur on cabbage.)</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 1.0 lbs/A (0.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 5.0 lbs/A (2.5 lbs metallic copper equivalent)</u>			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Cacao	Black Pod	1-4.5	Begin applications at the start of the rainy season and continue while infection conditions persist. Apply 2 to 4.5 pounds as often as 14 to 21 days in high rainfall areas at varying rates depending on disease severity. For drier areas where 2 to 4 applications are recommended during critical infection periods and at long intervals, use 8.5 pounds per acre according to disease incidence and planting density.

CACAO			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Black Pod</u>	<u>1.0 - 4.5</u>	<u>14</u>	<u>Begin applications at the start of the rainy season and continue while infection conditions persist.</u> <u>Sprays should be made as often as 14 - 21 days in high rainfall areas at varying rates per acre depending on disease severity.</u> <u>For drier areas where 2 to 4 applications are recommended during critical infection periods and at long intervals, use 2 - 4 lbs per acre, according to disease incidence and planting density.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 4.5 lbs/A (2.25 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 31.5 lbs/A (15.75 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Cantaloupe, Honeydew, Muskmelon	Downy Mildew	1	Begin application when conditions are favorable for disease development and repeat at 5 to 7 day intervals as needed depending on disease severity.

EDITOR's NOTE: Added to Cucurbit table

CROP	DISEASE	RATE lbs/A	COMMENTS
Carambola (Not for use in CA)	Anthracnose	3	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.

CARAMBOLA			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthracnose</u>	<u>3.0</u>	<u>7</u>	<u>Make initial application just before flowering and repeat on a weekly schedule until just before harvest.</u> <u>Apply in sufficient water for thorough coverage.</u>
RESTRICTIONS <u>Maximum single application rate is 4.2 lbs/A (2.1 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 21.0 lbs/A (10.5 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Carrots	Alternaria, Cercospora-Leaf Spot	1	Begin application when disease first threatens and repeat at 7 to 14 day intervals as needed depending on disease severity.

CARROTS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Carrot Blight (Cercospora)</u>	<u>1.0 – 1.5</u>	<u>7</u>	<u>Begin application when disease first threatens and repeat at 7 to 14 day intervals as needed depending on disease severity.</u>
RESTRICTIONS <u>Maximum single application rate is 2.0 lbs/A (1.0 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 10.0/A (5.0 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Celery, Celériac (Not for use in CA)	Cercospora Early Blight, Septoria Late Blight, Bacterial Blight	1	Begin applications as soon as plants are first established in the field, repeating at 5 to 7 day intervals depending on disease severity and environmental conditions.

CELERY & CELERIAC			
DISEASE	APPLICATION RATE (lbs/Acre)	MINIMUM DAYS RETREATMENT INTERVAL	COMMENT
Early, Late & Bacterial Blight	1.0 – 1.5	7	Apply as soon as plants are first established in the field, then every 7 days depending on severity and weather.
RESTRICTIONS Maximum single application rate is 2.0 lbs/A (1.0 lbs metallic copper equivalent) Maximum annual application rate is 10.0 lbs/A (5.0 lbs metallic copper equivalent)			

CROP	DISEASE	RATE lbs/A	COMMENTS
Cherry	Dead-Bud (Pseudomonas syringae); Coryneum Blight	4.6	Make first application in fall before heavy rains and a second at late dormant. In orchards where the disease is severe, a spray should also be applied shortly after harvest. Add 1 pint of superior type oil per 100 gallons of water as a dilute spray.
	Brown-Rot Blossom Blight		Apply a full cover spray, at popcorn stage and a second application at full bloom. NOTE: To avoid injury, do not use after full bloom.

CHERRY			
DISEASE	APPLICATION RATE (lbs/Acre)	MINIMUM DAYS RETREATMENT INTERVAL	COMMENT
Dormant & Late Bloom Season: Dead Bud (Pseudomonas syringae) Coryneum Blight	4.0 – 12.0	7	In orchards where the disease is severe a spray should also be applied shortly after harvest.
Bloom & Growing Season: Brown Rot Blossom	2.0 – 3.0	5	Applied at popcorn and full bloom.
RESTRICTIONS Maximum single dormant season application rate is 16.0 lbs/A (8.0 lbs metallic copper equivalent) Maximum single growing season application rate is 3.0 lbs/A (1.5 lbs metallic copper equivalent) Maximum annual application rate is 36.0/A (18.0 lbs metallic copper equivalent)			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Chives (Not for use in CA)	Downy Mildew	1	Begin applications when plants are established in the field. Repeat applications every 7-10 days as dictated by disease conditions. If disease pressure is high, use the shorter spray interval.

CHIVES			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Downy Mildew</u>	<u>1.0</u>	<u>7</u>	<u>Begin applications when plants are established in the field. Repeat applications every 7-10 days as dictated by disease conditions.</u>

RESTRICTIONS

Maximum single application rate is 1.0 lb/A (0.5 lbs metallic copper equivalent)

Maximum annual application rate is 5.0 lbs/A (2.5 lbs metallic copper equivalent)

CROP	DISEASE	RATE lbs/A	COMMENTS
Citrus (Adding foliar nutritionals to spray mixtures containing NU- COP XLR or other products and applying to citrus during that post bloom period when young fruit is present may result in spray burn. Do not use NU- COP XLR on citrus seedlings grown in greenhouses or shadehouses)	Melanose, Scab, Algal spot	2-6	Apply as a pre-bloom and post-bloom spray.
	Greasy Spot, Pink Pitting	1-3	Apply in summer on expanded new flush. Repeat on subsequent flushes where disease pressure is severe. Use higher rates when conditions favor disease.
	Alternaria Brown Spot (Suppression only)	4-5	On susceptible varieties apply when the first spring flush appears and each flush thereafter. Application to the fruit should start after 2/3's of the petals have fallen and be repeated on a 21-day schedule.
	Phytophthora Brown Rot; Septoria Spot	2-4	Begin applications in fall and continue as needed. Apply to entire tree. Apply also to bare ground one foot beyond skirt. Make foliar applications to protect developing fruit in orchards with previous disease history or when conditions favor disease development. Use higher rates when conditions favor disease. NOTE: In California, in areas subject to copper injury, add 1/3 to 1 lb. of high quality lime per pound of this product.
	Citrus Canker (suppression only)	6	Spray flushes 7-14 days after shoots begin to grow. Young fruit may require an additional application. Number and timing of applications will be dependent on disease pressure. Under heavy disease pressure, each flush of new growth should be sprayed.
	Phytophthora Foot Rot	0.5	Mix with 1 gallon of water and 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 serves as protection for up to one year, but does not cure existing infections.

CITRUS (Grapefruit, Kumquat, Lemon, Orange, Pummelo, Tangelo, Tangerine & Lime)			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Melanose, Scab, Pink Pitting, Greasy Spot,</u>	<u>2.0 – 6.3</u>	<u>7</u>	<p><u>Apply as pre-bloom and post-bloom sprays.</u></p> <p><u>Use higher rates when conditions favor disease.</u></p>
<u>Brown Rot, Septoria Spot</u>	<u>2.0 - 4.0</u>	<u>7</u>	<p><u>Apply beginning in the fall and continuing as needed.</u></p> <p><u>For Brown Rot, apply to skirts of trees to a height of at least 4 feet.</u></p> <p><u>Apply also to bare ground one foot beyond skirt.</u></p> <p><u>Use higher rates when conditions favor disease.</u></p> <p><u>NOTE: In California, in areas subject to copper injury, add 1/4 lb. of high quality lime per lb of BLUE SHIELD DF.</u></p>
<u>Citrus Canker (SUPPRESSION ONLY)</u>	<u>6.3</u>	<u>7</u>	<p><u>Spraying flushes 7-14 days after shoots begin to grow.</u></p> <p><u>Young fruit may need additional application. Number and timing of applications will depend on disease pressure.</u></p> <p><u>Under heavy disease pressure, each flush of new growth should be sprayed.</u></p>
<u>Phytophthora Foot Rot</u>	<u>See comment</u>	<u>7</u>	<p><u>Mix 0.5 - 1.0 lb with one gallon of water and paint trunks of trees from the soil surface to the lowest scaffold limbs.</u></p> <p><u>Apply in May before summer rains and/or in the fall before wrapping trees for freeze protection.</u></p> <p><u>This treatment serves as protection for up to one year, but does not cure existing infections.</u></p>

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CITRUS (Grapefruit, Kumquat, Lemon, Orange, Pummelo, Tangelo, Tangerine & Lime)			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Field Nursery Grown</u> <u>To control melanose, scab, pink pitting, greasy spot, brown rot and for citrus canker (suppression).</u>	<u>2.0 - 4.0</u>	<u>7</u>	<u>Apply 2.0 pounds of Blue Shield DF per 100 gallons of water.</u> <u>Apply Blue Shield DF as needed depending on disease severity.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 6.3 lbs/A (3.15 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 25.2 lbs/A (12.6 lbs metallic copper equivalent)</u>			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Coffee	Iron Spot (<i>Cercospora coffeicola</i>); Pink Disease (<i>Corticium salmonicolor</i>)	1	Use concentrate or dilute spray. Begin treatment at start of wet season and continue at monthly intervals for three applications.
	Coffee Berry Disease (Collectotrichum coffeanum)	3-4	Apply first spray after flowering and before onset of long rains and then at 21 to 28 day intervals until picking. Use higher rates and shorter intervals when rainfall is heavy and disease pressure is high.
	Bacterial Blight (<i>Pseudomonas syringae</i>)	3-4	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 higher rates and shorter intervals when rainfall is heavy and disease pressure is high.
	Leaf Rust (<i>Hemileia vastatrix</i>)	1-2	Apply before the onset of rains and then at 21 day intervals while the rains continue. Use higher rates when rainfall is heavy and disease pressure is high.

COFFEE			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Coffee Berry Disease (Collectotrichum coffeanum)</u>	<u>3.0 - 4.2</u>	<u>14</u>	<u>Apply after flowering and before the start of long rains and then at 14-28 day intervals until picking.</u> <u>Use higher rates when rainfall is heavy and disease pressure is high.</u>
<u>Bacterial Blight (Pseudomonas syringae)</u>		<u>14</u>	<u>Begin spray program before the start of long rains and continue until picking.</u> <u>The critical time of spraying to control disease is just before, during, and after flowering(s), especially when these times coincide with wet weather.</u> <u>Use higher rates when rainfall is heavy and disease pressure is high.</u>
<u>Iron Spot (Cercospora coffeicola) & Pink Disease (Corticium salmonicolor)</u>	<u>1.0</u>	<u>14</u>	<u>Begin treatment at start of wet season and continue at for three applications.</u>

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COFFEE			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Leaf Rust</u>	<u>1.0 – 2.0</u>	<u>14</u>	<p><u>Apply before the onset of rain and then at 14 - 21 day intervals while rains continue.</u></p> <p><u>Use higher rates when rainfall is heavy and disease pressure is high.</u></p>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 4.2 lbs/A (2.1 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 25.2 lbs/A (12.6 lbs metallic copper equivalent)</u>			

<u>CROP</u>	<u>DISEASE</u>	<u>RATE</u> <u>lbs/A</u>	<u>COMMENTS</u>
Cranberry	Fruit Rot	4	Make first application in late bloom. One or two additional applications at 10 – 14 day intervals may be required depending upon disease severity.
	Rose Bloom	4	Apply three sprays on 10 – 14 day schedule as soon as symptoms are observed.
	Bacterial stem canker	4	Apply postharvest and again in spring before bud burst. One or two additional applications at 10 to 14 day intervals may be required depending upon disease severity.
	Tip Blight (Monolinia), Stem and Leaf Blight, Red Leaf Spot	4	Apply delayed dormant spray in the Spring. Repeat at 10 – 14 day intervals as needed through pre-bloom.

CRANBERRY			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Fruit Rot</u>	<u>4.2</u>	<u>7</u>	<u>One or two additional applications made at 7 to 14 day intervals may be required, depending on disease pressure.</u>
<u>Rose Bloom</u>			<u>Apply three sprays on 10 - 14 day schedule as soon as symptoms are observed.</u>
<u>Bacterial Stem Canker</u>			<u>Apply postharvest and again in spring before bud burst. One or two additional applications at 10 to 14 day intervals may be required depending upon disease severity.</u>

CRANBERRY			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Tip Blight (Monolinia),</u> <u>Stem and Leaf Blight,</u> <u>Red Leaf Spot</u>			<u>Apply delayed dormant spray</u> <u>in the Spring. Repeat at 10 -</u> <u>14 day intervals as needed</u> <u>through pre-bloom.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 4.2 lbs/A (2.1 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 12.6 lbs/A (6.3 lb metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Cucumber	Angular Leaf Spot, Downy Mildew	1	Apply weekly when plants begin to vine.

<u>CUCURBITS (Cucumbers, Cantaloupes, Honeydews, Muskmelons,</u> <u>Pumpkins, Squash & Watermelons)</u>			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Alternaria Leaf Spot</u> <u>Angular Leaf Spot</u> <u>Anthrachnose</u> <u>Downy Mildew</u> <u>Powdery Mildew</u> <u>Gummy Stem Blight</u> <u>Watermelon Bacterial</u> <u>Fruit Blotch</u> <u>(suppression)</u>	<u>1.0</u>	<u>5</u>	<u>Begin application when</u> <u>conditions are favorable for</u> <u>disease development.</u> <u>Repeat at 5-10 day intervals.</u> <u>Use higher rates when</u> <u>conditions favor disease.</u> <u>NOTE: Crop injury may occur</u> <u>from application at higher</u> <u>rates and shorter intervals.</u> <u>Discontinue use if injury</u> <u>occurs.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 2.0 lbs/A (1.0 lb metallic copper equivalent)</u> <u>Maximum annual application rate is 10.5 lbs/A (5.25 lbs metallic copper equivalent)</u>			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Currants, Gooseberry	Anthracnose, Leaf Spot	5	Make initial application after first leaves have expanded. Continue on a 10 - 14 day schedule during wet conditions in the Spring. Make an additional application after harvest.

CURRANTS & GOOSEBERRY			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthracnose</u> <u>Leaf Spot</u>	<u>5.0</u>	<u>10</u>	Make initial application after first leaves have expanded. Continue on a 10 - 14 day schedule during wet conditions in the Spring. Make an additional application after harvest.
<u>RESTRICTIONS</u> <u>Maximum single application rate is 5.0 lbs/A (2.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 20.0 lbs/A (10.0 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Dill (Not for use in CA)	Phoma Leaf Spot, Rhizoctonia, Foliage Blight	1-1.5	Begin applications when plants are first established in the field and repeat at 7-10 day intervals depending upon disease severity and environmental conditions. Use higher rates when conditions favor disease.

DILL			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Phoma Leaf Spot,</u> <u>Rhizoctonia Foliage</u> <u>Blight</u>	<u>1.0 - 1.5</u>	<u>7</u>	<u>Begin applications when plants are first established in the field and repeat at 7-10 day intervals depending upon disease severity and environmental conditions.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 1.5 lbs/A (0.75 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 7.5 lbs/A (3.75 lbs. metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Douglas Fir (Not for use in CA)	Rhabdocline needlecast	1	Begin applications at bud break and repeat at 3-4 week intervals. -Apply in a tank mix with another registered pesticide if moderate to severe disease pressure is present.

DOUGLAS FIR			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Rhabdocline needlecast</u>	<u>1.0 – 4.0</u>	<u>7</u>	<u>Begin applications at bud break and repeat at 7 – 28 day intervals.</u> <u>Use higher rates when conditions favor disease.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 4.0 lbs/A (2.0 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 40.0 lbs/A (20.0 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Eggplant	Alternaria blight, Anthracnose, Phomopsis	1	Begin applications prior to development of disease symptoms. Repeat sprays at 7 to 10 day intervals or as needed depending on disease severity.

EGGPLANT			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Alternaria Blight Anthracnose Phomopsis</u>	<u>1.0</u>	<u>7</u>	<u>Begin applications prior to development of disease symptoms. Repeat sprays at 7 to 10 day intervals or as needed depending on disease severity.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 1.5 lbs/A (0.75 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 15.0 lbs/A (7.5 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Filbert	Bacterial Blight	8-12	Apply as a post-harvest spray. In seasons of heavy rainfall, apply a second spray when three-quarters of leaves have dropped. Add 1 pint of superior-type oil per 100 gallons of water.
	Eastern Filbert Blight	8-12	Apply as a dilute spray in adequate water for thorough coverage. Make initial application after harvest in October before heavy winter rains begin. The next application should be made in late February to early March followed by another application 1 month later. If desired, add 1 pint of a sticking agent or superior-type oil per 100 gallons of water.

FILBERTS			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Bacterial Blight</u> <u>(Post Harvest application)</u>	<u>8.0 – 12.0</u>	<u>14</u>	<u>Apply as a post-harvest spray. In seasons of heavy rainfall, apply a second spray when three-quarters of leaves have dropped. Add 1 pint of superior-type oil per 100 gallons of water.</u>
<u>Eastern Filbert Blight</u>			<u>Apply as a dilute spray in adequate water for thorough coverage. Make initial application after harvest in October before heavy winter rains begin. The next application should be made in late February to early March followed by another application 1 month later. If desired, add 1 pint of a sticking agent or superior-type oil per 100 gallons of water.</u>
<u>RESTRICTIONS</u> Maximum single application rate is 12.0 lbs/A (6.0 lbs metallic copper equivalent) Maximum annual application rate is 48.0 lbs/A (24.0 lbs metallic copper equivalent)			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Ginseng	Alternaria Leaf & Stem Blight	1-3	<p>Use as a tank mix with 2 lbs. Revral 50W used in 100 gallons of water. Begin applications as soon as plants emerge in spring. Applications should be repeated every 7 days until plants become dormant in fall. If scheduled application is to be made before a rain shower, apply fungicides at least 8 hours before the rain, giving the fungicides time to dry on the plants. Use of a spreader-sticker or sticker is advised.</p> <p>NOTE: Alternaria leaf and Stem blight are most severe in humid conditions such as those found in the dense canopies of 2-4 year old ginseng. It is very important that the stems be thoroughly covered with fungicide; therefore, use a spray apparatus which distributes the fungicide throughout the canopy.</p>

GINSENG			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Alternaria Leaf Stem Blight</u>	<u>1.5 - 2.1</u>	<u>7</u>	<p><u>Begin tank mix applications as a tank mix with two pounds of Iprodione 50WP in 100 gallons of water per acre as soon as plants have emerged in spring. Applications should be repeated every seven days until plants become dormant in fall.</u></p> <p><u>Apply fungicides at least eight hours before rain, giving the fungicides time to dry on the plants. Use of a spreader-sticker is advised.</u></p> <p><u>NOTE: Alternaria Leaf and Stem Blight is most severe in humid conditions such as those found in the dense canopies of two, three, and four year old ginseng. Complete and thorough spray is required for control.</u></p>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 2.1 lbs/A (1.05 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 10.5 lbs/A (5.25 lbs metallic copper equivalent)</u>			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Grapes	Black Rot, Powdery Mildew, Downy Mildew, Phomopsis, Leaf Blight	1	Begin applications at late dormant up to bud break with subsequent applications throughout the season depending upon disease severity. NOTE: Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara, and Rosettes. Either test for sensitivity or add 1 to 3 pounds of hydrated lime per pound of NU-COP XLR.

GRAPES			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Black Rot</u> <u>Powdery Mildew</u> <u>Downy Mildew</u> <u>Phomopsis</u>	<u>1.0 – 3.0</u>	<u>3</u>	<u>Begin applications at late dormant up to bud break with subsequent applications throughout the season depending upon disease severity.</u> <u>NOTE: Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara, and Rosettes. Either test for sensitivity or add 1 to 3 pounds of hydrated lime per pound of Blue Shield DF.</u>
RESTRICTIONS Maximum single application rate is 6.0 lbs/A (3.0 lbs metallic copper equivalent) Maximum annual application rate is 40.0 lbs/A (20.0 lbs metallic copper equivalent)			

Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Guava (Not for use in CA)	Anthracnose, Red Algae	1-5	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.

GUAVA			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>

<u>Anthracnose</u> <u>Red Algae</u>	<u>1.5</u>	<u>7</u>	<u>Make initial application just before flowering and repeat on a weekly schedule until just before harvest.</u> <u>Apply in sufficient water for thorough coverage.</u>
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RESTRICTIONS

Maximum single application rate is 2.5 lbs/A (1.23 lbs metallic copper equivalent)
Maximum annual application rate is 10.0 lbs/A (4.92 lbs metallic copper equivalent)

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Hops	Downy Mildew	1	Make crown treatment (after pruning, but before training). After training, additional treatments are needed at about 10 day intervals. NOTE: Discontinue use 2 weeks before harvest.

<u>HOPS</u>			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Downy Mildew</u>	<u>1.0</u>	<u>10</u>	<u>Apply as a fungicide crown treatment (after pruning, but before training) as needed.</u> <u>After training, additional fungicide treatments are needed at 10 day intervals.</u> <u>Discontinue use 2 weeks before harvest.</u>
<u>RESTRICTIONS</u>			
<u>Maximum single application rate is 1.0 lb/A (0.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 5.0 lbs/A (2.5 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Kiwi	Pseudomonas syringae, Erwinia herbicola, Pseudomonas fluorescens	4	Apply in 200 gallons of water per acre. Make applications on a monthly basis. A maximum of 3 applications may be made.

<u>KIWI</u>

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<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Pseudomonas syringae</u> <u>Erwinia herbicola</u> <u>Pseudomonas fluorescens</u>	<u>4.2</u>	<u>30</u>	<u>Make applications on a monthly basis. A maximum of 3 applications may be made.</u>
RESTRICTIONS Maximum single application rate is 4.2 lbs/A (2.1 lbs metallic copper equivalent) Maximum annual application rate is 12.6 lbs/A (6.3 lbs metallic copper equivalent)			

Error! Bookmark not defined.CROP	<u>DISEASE</u>	<u>RATE</u> lbs/A	<u>COMMENTS</u>
Lettuce, Endive, Escarole	Downy Mildew	0.5-1	Begin treatment when disease first appears and repeat every 3-10 days as needed to suppress disease. NOTE: Flecking and/or yellowing of leaves will 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. Increasing the volume of spray water will frequently decrease phytotoxicity potential.

<u>LETTUCE, ENDIVE & ESCAROLE</u>			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Downy Mildew</u>	<u>0.5 – 2.0</u>	<u>5</u>	<u>Begin treatment when disease first appears and repeat every 5 - 10 days as needed to suppress disease.</u>
NOTE: Flecking and/or yellowing of leaves will 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. Increasing the volume of spray water may decrease phytotoxicity potential.			
RESTRICTIONS Maximum single application rate is 2.0 lbs/A (1.0 lb metallic copper equivalent) Maximum annual application rate is 16.0 lbs/A (8.0 lbs metallic copper equivalent)			

<u>CROP</u>	<u>DISEASE</u>	<u>RATE</u> lbs/A	<u>COMMENTS</u>
Litchi (Not for use in CA)	Anthrachnose	1.5	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.

<u>LITCHI</u>

<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
Anthraco se	1.5	7	<u>Make initial application just before flowering and repeat on a weekly schedule until just before harvest.</u> <u>Apply in sufficient water for thorough coverage.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 2.4 lbs/A (1.2 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 9.6 lbs/A (4.8 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Live Oak, Pecan (FL & TX)	Ball Moss,	3	Apply 6 pounds per 100 gallons of water, in the spring, when ball moss is actively growing, using 1.5 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: NU-COP XLR may be injurious to ornamentals grown under Live Oaks. This product may be reactive on metal and masonry surfaces. Do not spray on cars, houses, lawn furniture, etc.

<u>LIVE OAK</u>			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
Ball Moss	<u>See comment *</u>	<u>A second application may be required after 12 months</u>	<u>* Mix 4 – 6 lbs per 100 gallons of water.</u> <u>Apply in spring after heavy rain, using 1.5 gallons of spray per foot of tree height.. Make sure to set tufts thoroughly.</u> <u>(NOTE: BLUE SHIELD DF may be injurious to some ornamentals grown under live oaks).</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 4.0 lbs/A (2.0 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 40.0 lbs/A (20.0 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Macadamia Nuts	Anthraco se	3	Initiate sprays at first sign of flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.

	Phytophthora Blight (P.capsici), Raceme Blight (Botrytis cinerea)	3	Apply during raceme development and bloom periods. Apply in sufficient water for thorough coverage.
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MACADAMIA NUTS

<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Anthrachnose</u>	<u>3.0</u>	<u>7</u>	<u>Initiate sprays at first sign of flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage</u>
<u>Blossom blight</u> <u>Raceme blight</u>	<u>3.0</u>	<u>7</u>	<u>Apply during peak raceme development and bloom period.</u> <u>Use higher rates when conditions favor disease.</u>

RESTRICTIONS

Maximum single application rate is 4.7 lbs/A (2.36 lbs metallic copper equivalent)

Maximum annual application rate is 18.8 lbs/A (9.44 lbs metallic copper equivalent)

<u>CROP</u>	<u>DISEASE</u>	<u>RATE</u> lbs/A	<u>COMMENTS</u>
Mamey Sapote (Not for use in CA)	Anthrachnose, Algal Leaf Spot	3-4	Apply when conditions favor disease development. Repeat on 14-30 day schedule as disease severity and environmental conditions dictate.

MAMEY SAPOTE

<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Anthrachnose</u> <u>Algal Leaf Spot</u>	<u>3.0 – 4.2</u>	<u>14</u>	<u>Apply when conditions favor disease development.</u> <u>Repeat on 14-30 day schedule as disease severity and environmental conditions dictate.</u> <u>Use higher rates when conditions favor disease.</u>

RESTRICTIONS

Maximum single application rate is 4.2 lbs/A (2.1 lbs metallic copper equivalent)

Maximum annual application rate is 16.8 lbs/A (8.4 lbs metallic copper equivalent)

CROP	DISEASE	RATE lbs/A	COMMENTS
Mango (Not for use in CA)	Anthracnose	4	Apply monthly after fruit set until harvest.

MANGO			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Anthracnose</u>	<u>4.0</u>	<u>30</u>	<u>Apply monthly after fruit set until harvest.</u>
RESTRICTIONS			
Maximum single application rate is 5.2 lbs/A (2.6 lbs metallic copper equivalent)			
Maximum annual application rate is 36.4 lbs/A (18.2 lbs metallic copper equivalent)			

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Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Olives	Peacock Spot, Olive Knot	4-6	Make first application before winter rains fall. A second application in early spring should be made if disease is severe. Apply the high rate for heavy disease pressure or when conditions favor such.

OLIVES			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Peacock Spot</u> <u>Olive Knot</u>	<u>4.0 – 6.3</u>	<u>30</u>	<u>Apply before winter rains fall.</u> <u>A second application in early spring should be made if disease is severe.</u> <u>Use higher rates when conditions favor disease.</u>
RESTRICTIONS <u>Maximum single application rate is 6.3 lbs/A (3.15 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 12.6 lbs/A (6.3 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Onions	Purple Blotch, Downy Mildew	1	Begin when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals as needed depending upon disease pressure. Can cause phytotoxicity to leaves.
	Bacterial Blight	1	

<u>ONION & GARLIC</u>			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Purple Blotch</u> <u>Downy Mildew</u>	<u>1.0</u>	<u>7</u>	<u>Begin when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals as needed depending upon disease pressure. Can cause phytotoxicity to leaves.</u>
<u>Bacterial Blight</u>	<u>1.0 – 1.5</u>		
<u>RESTRICTIONS</u> <u>Maximum single application rate is 2.0 lbs/A (1.0 lb metallic copper equivalent)</u> <u>Maximum annual application rate is 12.0 lbs/A (6.0 lbs metallic copper equivalent)</u>			

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Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Papaya (Not for use in CA)	Anthrachnose	2-5	Apply before disease appears. Apply at 10 to 14 day intervals under light disease pressure and at 5 to 7 day intervals under heavy disease pressure. The addition of any approved spreader is desirable.

PAPAYA			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthrachnose</u>	<u>2.0 – 5.3</u>	<u>14</u>	<p><u>Begin application before disease is expected to appear.</u></p> <p><u>Repeat at 14 day intervals. Use the higher rates when conditions favor disease.</u></p> <p><u>The addition of a suitable spreader-sticker may be desirable especially during periods of heavy rains.</u></p>
RESTRICTIONS <u>Maximum single application rate is 5.3 lbs/A (2.65 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 42.4 lbs/A (21.2 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Parsley (Not for use in CA)	Bacterial Blight (Pseudomonas sp.)	1.5	Begin applications when plants are first established in the field and repeat at 5-7 day intervals depending upon disease severity and environmental conditions.

PARSLEY			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Bacterial Blight (Pseudomonas sp.)</u>	<u>1.5</u>	<u>10</u>	<u>Begin applications when plants are first established in the field and repeat at 10 day intervals depending upon disease severity and environmental conditions.</u>
RESTRICTIONS <u>Maximum single application rate is 2.0 lbs/A (1.0 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 4.0 lbs/A (2.0 lbs metallic copper equivalent)</u>			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Passion Fruit (Not for use in CA)	Anthrachnose	3	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.

PASSION FRUIT			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Anthrachnose</u>	<u>3.0</u>	<u>7</u>	<u>Make initial application just before flowering and repeat on a weekly schedule until just before harvest.</u> <u>Apply in sufficient water for thorough coverage.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 4.7 lbs/A (2.36 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 18.8/A (9.44 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Peaches, Nectarines NOTE: Do not spray later than 3 weeks prior to harvest. Use only recommended rates. Spotting on leaves and defoliation may occur from use in cover sprays.	Leaf Curl, Coryneum Blight (Shot Hole)	4-8	Apply at leaf fall. Use the highest rates per acre when rainfall is very heavy and disease pressure is high. May be used with agricultural spray oil.
	Bacterial Canker and Blast (Pseudomonas), Bacterial Spot (Xanthomonas)		
	Brown Rot Blossom Blight	4-6	Apply as a full cover spray at pink bud. (Application at this time affords some control of Leaf Curl and Coryneum Blight).
	Bacterial Spot	0.5	Make post-bloom applications at first and second cover sprays.
		4	Apply as a dormant spray.

PEACHES & NECTARINES			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Dormant & late dormant:</u> <u>Bacterial Spot</u> <u>Leaf Curl</u> <u>Coryneum Blight (Shot Hole)</u>	<u>4.0 - 8.0</u>	<u>7</u>	<u>Apply at leaf fall as dormant application.</u> <u>Use the higher rate when rainfall is very heavy and disease pressure is high.</u> <u>May be used with an agricultural spray oil.</u>

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PEACHES & NECTARINES			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Brown Rot Blossom Blight</u>	<u>4.0 – 6.0</u>	<u>5</u>	<u>Apply as a full cover spray at pink bud.</u> <u>(Application at this time also affords some control of Leaf Curl and Coryneum Blight).</u> <u>NOTE: Do not spray later than three weeks prior to harvest. Do not use at rates above those recommended.</u>
<u>Bloom & Growing Season:</u> <u>Bacterial Spot</u>	<u>0.5 – 2.0</u>	<u>5</u>	<u>Post-bloom application applied at first and second cover sprays.</u> <u>NOTE: do not spray 3 weeks prior to harvest. Spotting of leaves and some defoliation may occur from use in post-bloom cover sprays.</u>
<u>RESTRICTIONS</u> <u>Maximum single dormant season application rate is 16.0 lbs/A (8.0 lbs metallic copper equivalent)</u> <u>Maximum single growing season application rate is 3.0 lbs/A (1.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 36.0 lbs/A (18.0 metallic copper equivalent)</u>			

Error! Bookmark not defined.	DISEASE	RATE lbs/A	COMMENTS
Peanuts	Cercospora Leaf Spot	0.75-1.5	Begin spraying 35 to 40 days after planting or when disease symptoms first appear and repeat at 10 – 14 day intervals as needed. Reduce sprays to 7 day intervals during humid weather. Use higher rates when conditions favor disease. NOTE: The use of one to two quarts of Sulfur 6L per acre may be added.

PEANUTS			
<u>DISEASE</u>	<u>APPLICATION RATE</u> (lbs/Acre)	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Cercospora Leaf Spot</u>	<u>0.75 - 1.5</u>	<u>7</u>	<u>Begin spraying 25-40 days after planting or when disease symptoms appear.</u> <u>Use sufficient water to get adequate coverage.</u> <u>Continue applications at 7 to 14 day intervals. Reduce spray interval to 7 days during humid weather.</u>

RESTRICTIONS

Maximum single application rate is 1.5 lbs/A (0.75 lbs metallic copper equivalent)

Maximum annual application rate is 9.0 lbs/A (4.5 metallic copper equivalent)

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Pears	Fire-Blight	0.5	Apply at 5 day intervals throughout bloom period.
	Blossom-Blast (Pseudomonas Blight)	6-8	Apply before fall rains and again during dormancy before spring growth begins. Use the higher rate when disease pressure is high or when conditions favor development of such. NOTE: May cause fruit russet on copper sensitive varieties.

PEARS, QUINCE

<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Bloom & Growing Season:</u>	<u>0.5 - 1.0</u>	<u>5</u>	<u>Apply at 5 day intervals throughout bloom period. Excessive dosages may cause fruit russet.</u>
<u>Fireblight</u>			
<u>Fall & Late Dormant Season:</u>	<u>6.0 - 8.0</u>	<u>Only one dormant application allowed per season</u>	<u>Apply before fall rain begins.</u>
<u>Pseudomonas blight</u>			

RESTRICTIONS

Maximum single dormant season application rate is 16.0 lbs/A (8.0 lbs metallic copper equivalent)

Maximum single growing season application rate is 1.0 lb/A (0.5 lbs metallic copper equivalent)

Maximum annual application rate is 32.0 lbs/A (16.0 lbs metallic copper equivalent)

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Peas	Powdery Mildew	0.75- 1.5	Begin applications when disease symptoms first appear and repeat at weekly intervals as needed. Use higher rate for more severe disease.

PEAS

<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Powdery Mildew</u>	<u>0.75 - 1.5</u>	<u>7</u>	<u>Begin spray treatment when disease symptoms first appear.</u> <u>Repeat applications at weekly intervals.</u>

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RESTRICTIONS	
Maximum single application rate is 1.5 lbs/A (0.75 lbs metallic copper equivalent)	
Maximum annual application rate is 7.5 lbs/A (3.75 lbs metallic copper equivalent)	

Error! Bookmark not defined.CRO P	DISEASE	RATE lbs/A	COMMENTS
Pecans	Shuck and Kernel Rot (Phytophthora cactorum), Zonate Leaf Spot (Cristulariella pyramidalis)	1-2	For suppression, apply in sufficient water to ensure complete spray coverage at 2 to 4 week intervals starting at kernel growth and continuing until shucks open. Use the higher rate and shorter intervals if frequent rainfall occurs.
	Mosses, Alga, Lichen	3	Mix with spreader-sticker on a dilute spray basis and apply in dormant season before buds swell, thoroughly wetting limbs and mosses.

PECANS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Shuck and Kernel rot (Phytophthora cactorum)</u> <u>Zonate leaf spot (Cristulariella pyramidalis)</u>	<u>1.0 - 2.0</u>	<u>14</u>	<u>Apply in sufficient water for good coverage at 2-4 week intervals starting at kernel growth and continuing until shucks open.</u> <u>Use the higher rate and shorter intervals if frequent rainfall occurs.</u>
<u>Mosses</u> <u>Algae</u> <u>Lichen</u>	<u>See Comment</u>	<u>Make only one application per year</u>	<u>Mix 1.5 lbs per 100 gallons spray plus spreader-sticker on a dilute spray basis and apply in dormant season before buds swell, thoroughly wetting limbs and mosses.</u>
RESTRICTIONS			
Maximum single application rate is 4.2 lbs/A (2.1 lbs metallic copper equivalent)			
Maximum annual application rate is 16.4/A (8.4 lbs metallic copper equivalent)			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Peppers	Bacterial Spot	1-1.5	Begin applications when conditions first favor disease development and repeat at 5 to 10 day intervals as needed depending on disease severity. Use higher rates for severe disease.

PEPPERS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Bacterial Spot</u>	<u>1.0 - 1.5</u>	<u>3</u>	<u>Apply, when disease threatens, in sufficient water to provide adequate coverage.</u> <u>Use at 3 to 14 day intervals depending on disease severity.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 1.5 lbs/A (0.75 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 23.5 lbs/A (11.75 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Pistachios (Not for use in CA)	Botrytis Blight, Botryosphaeria Panicle and Shoot Blight, Septoria Leaf Blight, Late Blight (Alternaria alternata)	2-4	Make initial application at bud swell and repeat on a 14-28 day schedule as dictated by disease conditions. If disease conditions are severe, use the high rate and short spray interval.

PISTACHIOS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Botrytis Blight, Botryosphaeria Panicle, Shoot Blight, Septoria Leaf Blight, Late Blight (Alternaria)</u>	<u>2.0 - 4.2</u>	<u>14</u>	<u>Make initial application at bud swell and repeat on a 14 - 28 day schedule.</u> <u>Use higher rates when conditions favor disease.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 4.2 lbs/A (2.1 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 16.8 lbs/A (8.4 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Plums, Prunes	Coryneum-Blight (Shot Hole)	4-8	Apply as a dormant spray. Use the higher rate when rainfall is heavy and/or disease pressure is high.
	Brown-Rot Blossom Blight	4-6	Apply full cover application at pink, red or early white bud stage. Use the higher rate when disease pressure is heavy or conditions favor disease development.

PLUMS & PRUNES			
DISEASE	APPLICATION RATE (lbs/Acre)	MINIMUM DAYS RETREATMENT INTERVAL	COMMENT
<u>Dormant Season:</u> <u>Coryneum blight (Shot hole)</u>	<u>4.0 – 8.0</u>	<u>7</u>	<u>Apply as a dormant spray. Use the higher rate when rainfall is heavy and/or disease pressure is high.</u>
<u>Bloom & Growing Season:</u> <u>Brown rot blossom blight,</u> <u>Black Knot</u>	<u>2.0 - 3.0</u>	<u>5</u>	<u>Apply full cover application at pink, red or early white bud stage. Use the higher rate when disease pressure is heavy or conditions favor disease development.</u>
<u>RESTRICTIONS</u> <u>Maximum single dormant season application rate is 16.0 lbs/A (8.0 lbs metallic copper equivalent)</u> <u>Maximum single growing season application rate is 3.0 lbs/A (1.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 36.0 lbs/A (18.0 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Potatoes	Early & Late Blight	0.5-2	Apply 1.0—1.5 pounds at 7 to 10 day intervals starting when plants are 6 inches high until 2 weeks before harvest in locations where disease is light and up to 3 to 4 pounds per acre where disease is more severe. Under conditions of severe disease, control with NU-COP-XLR 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.

POTATOES			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Early & Late Blight</u>	<u>0.5 – 2.5</u>	<u>5</u>	<p><u>Apply 1.0 - 1.5 pounds at 5 to 10 day intervals starting when plants are 2 - 6 inches high until 2 weeks before harvest in locations where disease is light and up to 3 to 5 pounds per acre where disease is more severe.</u></p> <p><u>Under conditions of severe disease, control with Blue Shield DF 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.</u></p>
RESTRICTIONS Maximum single application rate is 5.0 lbs/A (2.5 lbs metallic copper equivalent) Maximum annual application rate is 50.0 lbs/A (25.0 lbs metallic copper equivalent)			

CROP	DISEASE	RATE lbs/A	COMMENTS
Pumpkins, Squash	Powdery Mildew	0.75- 1.5	Begin applications when plants are 3 weeks old or when disease symptoms first appear and repeat at 7 day intervals as needed to maintain control. Use the higher rates if disease is heavy or conditions favor disease development.

EDITOR's NOTE: See Cucurbits table

CROP	DISEASE	RATE lbs/A	COMMENTS
Quince (Not for use in CA)	Fire Blight		Apply at 5 day intervals throughout bloom period.

EDITOR's NOTE: See Pears, Quince table

CROP	DISEASE	RATE lbs/A	COMMENTS
Raspberry (Not for use in CA)	Leaf & Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, Pseudomonas Blight	2	Apply delayed dormant spray after training in the spring. Make fall application after harvest. Add 1 qt. of crop oil per acre.
	Leaf & Cane Spot, Purple Blotch, Anthracnose, Yellow Rust	1	Apply when leaf buds begin to open and repeat when flower buds show white. 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 application if signs of crop injury appear.

EDITOR's NOTE: See Brambles table

Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Spinach	Anthracnose, Blue Mold, Cercospora Leafspot, & White Rust	1-1.5	Begin applications when disease first appears or conditions favor disease development. Repeat at 7 to 10 day intervals as needed. NOTE: Flecking may occur on spinach leaves.

SPINACH			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthracnose,</u> <u>Blue Mold,</u> <u>Cercospora Leafspot,</u> <u>Downy Mildew,</u> <u>White Rust,</u>	<u>1.0 - 1.5</u>	<u>7</u>	<u>Begin applications when</u> <u>disease first appears or</u> <u>conditions favor disease</u> <u>development. Repeat at 7 to</u> <u>10 day intervals as needed.</u> <u>NOTE: Flecking may occur on</u> <u>spinach leaves.</u>
RESTRICTIONS			
Maximum single application rate is 1.5 lbs/A (0.75 lbs metallic copper equivalent)			
Maximum annual application rate is 7.5 lbs/A (3.75 lbs metallic copper equivalent)			

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Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Strawberries	Leaf Spot, Leaf Blight	1-1.5	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. NOTE: Discontinue applications if signs of phytotoxicity appear.

STRAWBERRIES			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Downy Mildew</u> <u>Leaf Spot</u> <u>Leaf Blight</u>	<u>1.0 – 1.5</u>	<u>7</u>	<u>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.</u> <u>NOTE: Discontinue applications if signs of phytotoxicity appear.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 3.0 lbs/A (1.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 16.0 lbs/A (8.0 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Sugar Apple (Annona) (Not for use in CA)	Anthracoese	6	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.

<u>ATEMOYA, SUGAR APPLE (Annona)</u>			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthracoese</u>	<u>6.3</u>	<u>7</u>	<u>Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 6.3 lbs/A (3.15 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 25.2 lbs/A (12.6 lbs metallic copper equivalent)</u>			

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CROP	DISEASE	RATE lbs/A	COMMENTS
Sugar Beets, Table Beets (Table Beets not for use in CA)	Cercospora Leaf Spot	1-1.5	Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals as needed. Use the higher rate when disease is severe. Addition of suitable agricultural spray oil is recommended.

SUGAR BEETS & TABLE BEETS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Cercospora Leaf Spot</u>	<u>1.0 - 2.0</u>	<u>10</u>	<u>Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals as needed. Use the higher rate when disease is severe.</u>
RESTRICTIONS <u>Maximum single application rate is 2.5 lbs/A (1.25 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 15.0 lbs/A (7.5 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Sycamore	Anthrachnose	1-1.5	Apply as a full coverage spray. Apply in 100 gallons of water or sufficient volume for thorough coverage. Make first application at bud crack and second application 7-10 days later at 10% leaf expansion.

SYCAMORE			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Anthrachnose</u>	<u>1.0 - 2.0</u>	<u>7</u>	<u>Make two applications as a full cover spray.</u> <u>Use a minimum of 100 gallons water per acre.</u> <u>Make first application at bud crack and second application 7 to 14 days later at 10% leaf expansion.</u>
RESTRICTIONS <u>Maximum single application rate is 4.0 lbs/A (2.0 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 40.0 lbs/A (20.0 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Tomatoes	Early Blight; Late Blight	1-1.5	Begin when disease first threatens and repeat at 7 to 10 day intervals or as needed depending on disease severity. Use higher rate for severe disease.
	Bacterial Speck	1	Begin applications when disease first threatens and repeat at 10 to 30 day intervals or as needed depending on disease severity.
	Bacterial Spot; Anthracnose; Gray Leaf Mold; Septoria Leaf Spot	1-2	Begin when disease first threatens and repeat at 7 to 10 day intervals or as needed depending on disease severity. Use higher rate for severe disease.

TOMATOES			
<u>DISEASE</u>	<u>APPLICATION RATE</u> <u>(lbs/Acre)</u>	<u>MINIMUM DAYS</u> <u>RETREATMENT</u> <u>INTERVAL</u>	<u>COMMENT</u>
<u>Early Blight</u> <u>Bacterial Speck</u> <u>Bacterial Spot</u> <u>Anthracnose</u> <u>Gray Leaf Mold</u> <u>Gray Leaf Spot</u> <u>Septoria Leaf Spot</u> <u>Late Blight</u>	<u>1.0</u>	<u>3</u>	<u>When disease threatens, apply at 7 - 10 day intervals, more frequently when disease is severe.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 1.0 lb/A (0.5 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 34.5 lbs/A (17.25 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined. CROP	DISEASE	RATE lbs/A	COMMENTS
Turfgrass	Algae	See comment	<p>Apply 1.5 lb. per 1,000 square feet in 5 gallons of water. May be used as a maintenance spray as needed. May be used alone or in combination with fungicides. Observe all precautions and limitations on the label of each product used in tank mixes.</p> <p>NOTE: Phytotoxicity may occur depending on varietal differences. Apply the recommended rate to a small area and observe 7-10 days for phytotoxicity. If phytotoxicity occurs, discontinue use. Do not apply in spray solutions with a pH of less than 6.5.</p>

TURFGRASS			
<u>DISEASE</u>	<u>APPLICATION RATE (pints)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Algae</u>	<u>4.0 – 6.0</u>	<u>10</u>	<p><u>May be used as a maintenance spray as needed. May be used alone or in combination with fungicides such as dithiocarbamates.</u></p> <p><u>Use a minimum of 100 gallons of water per acre.</u></p> <p><u>Phytotoxicity may depend on varietal differences. Apply the recommended rate to a small area and observe 7 - 10 days for phytotoxicity. If phytotoxicity occurs, discontinue use.</u></p>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 6.0 lbs/A (3.0 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 18.0 lbs/A (9.0 lbs metallic copper equivalent)</u>			

Error! Bookmark not defined.	DISEASE	RATE lbs/A	COMMENTS
Walnuts	Walnut Blight	4-6.5	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 free moisture occurs. Thorough coverage of catkins, leaves and nutlets is essential for effective control. When applied as a dilute spray, 1 pint of summer oil emulsion may be added per 100 gallons of spray. NOTE: Adequate control may not be obtained when copper tolerant species of Xanthomonas bacteria are present.

WALNUTS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Walnut Blight</u>	<u>4.0 – 6.3</u>	<u>7</u>	<p><u>Apply first spray at early pre-bloom when catkins are partially expanded.</u></p> <p><u>Make three additional applications during bloom and early nutlet stages at 7 to 10 day intervals. Additional applications may be necessary when frequent rainfall occurs.</u></p> <p><u>Thorough coverage of catkins, leaves and nutlets is essential for effective control. When applied as a dilute spray, 1 pint of summer oil emulsion may be added per 100 gallons of spray.</u></p> <p><u>NOTE: Adequate control may not be obtained when copper tolerant species of Xanthomonas bacteria are present.</u></p>
<u>RESTRICTIONS:</u> <u>Maximum single application rate is 6.3 lbs/A (3.15 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 50.4 lbs/A (25.2 lbs metallic copper equivalent)</u>			

CROP	DISEASE	RATE lbs/A	COMMENTS
Watercress (Not for use in CA)	Cercospora Leaf Spot	1	Begin applications when plants are first established in the field, repeating at 7-14 day intervals depending on disease severity and environmental conditions. Do not exceed 4 applications per crop. Apply using ground spray equipment at no less than 50 gallons of spray solution per acre.

WATERCRESS			
DISEASE	APPLICATION RATE (lbs/Acre)	MINIMUM DAYS RETREATMENT INTERVAL	COMMENT
Cercospora Leaf Spot	1.0	7	Begin application when plants are first established in the field, repeating at 7-14 day intervals depending on disease severity and environmental conditions. Do not exceed 4 applications per crop. Apply using ground spray equipment at no less than 50 gallons of spray solution per acre.
RESTRICTIONS Maximum single application rate is 1.0 lb/A (0.5 lbs metallic copper equivalent) Maximum annual application rate is 4.0 lbs/A (2.0 lbs metallic copper equivalent)			

Error! Bookmark not defined.CROP	DISEASE	RATE lbs/A	COMMENTS
Watermelon	Anthrachnose; Bacterial Fruit Blotch (suppression); Downy Mildew	0.75- 1	Apply as soon as plants become established in the field and repeat at weekly intervals as needed depending upon disease severity. Use higher rates when conditions favor disease.

EDITOR'S NOTE: See Cucurbits table

CROP	DISEASE	RATE lbs/A	COMMENTS
Wheat, Oats, Barley	Septoria Leaf Blotch, Helmintho- sporium Spot Blotch	0.75- 1	Make first application at early heading and follow with second application 10 days later. Use the higher rates when conditions favor disease.

WHEAT, BARLEY & OATS			
<u>DISEASE</u>	<u>APPLICATION RATE (lbs/Acre)</u>	<u>MINIMUM DAYS RETREATMENT INTERVAL</u>	<u>COMMENT</u>
<u>Septoria Leaf Blotch</u> <u>Helminthosporium</u> <u>Spot Blotch</u>	<u>0.75 - 1.0</u>	<u>10</u>	<u>Make first application at early heading and follow with second application 10 days later.</u>
<u>RESTRICTIONS</u> <u>Maximum single application rate is 1.0 lb/A (0.50 lbs metallic copper equivalent)</u> <u>Maximum annual application rate is 2.0 lbs/A (1.0 lbs metallic copper equivalent)</u>			

CITRUS
Field-Nursery Grown

To control melanose, scab, pink pitting, greasy spot, brown rot and for citrus canker (suppression). Apply 1.0 pounds of NU-COP XLR per 100 gallons of water (2-4 lbs./acre). Apply NU-COP XLR at 28 day intervals or as needed depending on disease severity.

EDITOR's NOTE: See Citrus table

GREENHOUSE AND SHADEHOUSE CROPS

NOTICE TO USER: NU-COP XLR may be used in greenhouses and shadehouses to control diseases on some crops which appear on this label. The grower should bear in mind that the sensitivity of crops grown in greenhouses and shadehouses differ greatly from crops grown under field conditions. Neither the manufacturer nor seller has determined whether or not NU-COP XLR can be used safely prior to commercial use. In a small area, apply the recommended rates to the plant in question, i.e. foliage, fruit, etc. and observe for 7 to 10 days for symptoms of phytotoxicity prior to commercial use.

Apply NU-COP XLR according to specific rates given for these crops in pounds per acre or pounds per 100 gallons.

1.5 tablespoons of NU-COP XLR per 1,000 square feet is equivalent to 1 pound per acre. 2/3 tablespoon of NU-COP XLR per gallon of water is equivalent to 1 pound per 100 gallons. NU-COP XLR 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 as needed; use shorter interval during periods when severe disease conditions persist.

CROP	DISEASE	RATE TBSP/ 1,000 sq.ft.	COMMENTS
Eggplant	Alternaria Blight, Anthracnose, Phomopsis	1.5 TBSP	Begin applications prior to development of disease symptoms. Repeat sprays at 7 to 10 day intervals or as needed depending on disease pressure.

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CROP	DISEASE	RATE TBSP/ 1,000 sq.ft.	COMMENTS
Pepper	Bacterial Spot	1.5 – 2.3 TBSP	Begin applications when conditions first favor disease development and repeat at 5 to 10 day intervals as needed depending on disease severity. Use higher rates for severe disease.
Cucumber	Angular Leaf Spot, Downy Mildew	1.5 TBSP	Apply weekly when plants begin to vine.
Tomato	Early Blight, Late Blight	1.5-2.3 TBSP	Begin when disease first threatens and repeat at 7 to 10 day intervals or as needed depending on disease severity. Use higher rate for severe disease.
	Bacterial Speck	1.5 TBSP	Begin applications when disease first threatens and repeat at 7 to 10 day intervals or as needed depending on disease severity.
	Bacterial Spot, Anthracnose, Gray Leaf Mold, Septoria Leaf Spot	1.5-3.0 TBSP	Begin when disease first threatens and repeat at 7 to 10 day intervals or as needed depending on disease severity. Use higher rate for severe disease.

ORNAMENTALS

Notice to User: Plant sensitivities to copper hydroxide have been found to be acceptable in specific genera and species listed on this label; however, phytotoxicity may occur. Due to the large number of species and varieties of ornamentals and nursery plants, it is impossible to test every one for sensitivity to NU-COP XLR. Neither the manufacturer nor seller has determined whether or not NU-COP XLR can be safely used on ornamental or nursery plants not listed on this label. The user should determine if NU-COP XLR 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 7-10 days for symptoms of phytotoxicity prior to commercial use.

Use this product on container, bench, or bed-grown ornamentals in greenhouses or outdoor nurseries, for professional use on ornamentals grown for indoor and outdoor landscaping, and for control of bacterial and fungal diseases of foliage, flowers and stems.

2/3 tablespoon of NU-COP XLR per gallon of water is equivalent to 1 pound per 100 gallons.

Apply as a thorough coverage spray using 0.5 lbs. NU-COP XLR per 100 gallons of water. Begin applications at first sign of disease and repeat at 7-14 day intervals as needed; use shorter interval during periods of frequent rains or when severe disease conditions persist.

NU-COP XLR may be used as a maintenance spray alone or in combination with other fungicides such as the dithiocarbamates.

CROP	LATIN NAME	DISEASE
Althea (Rose of Sharon)+	<i>Hibiscus syriacus</i>	Bacterial Leaf Spot
Aralia	<i>Dizygotheca elegantissima</i>	Xanthomonas & Cercospora Leaf Spots, Alternaria
Arborvitae+	<i>Thuja sp.</i>	Alternaria Twig Blight, Cercospora Leaf Blight
Azalea*	<i>Rhododendron sp.</i>	Cercospora Leaf Spot; Botrytis Blight, Phytophthora Dieback & Powdery Mildew
Begonia	<i>Begonia semperflorens</i>	Bacterial leaf spot (Xanthomonas sp., Erwinia sp., Pseudomonas sp.)
Bougainvillea+	<i>Bougainvillea spectabilis</i>	Anthracnose, Bacterial Leaf Spot

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CROP	LATIN NAME	DISEASE
Bulbs, (Tulip, Gladiolus)	<i>Miscellaneous</i>	Anthracnose, Botrytis Blight
Camellia+	<i>Camellia japonica</i> , <i>C. sasangua</i>	Anthracnose, Bacterial Leaf Spot
Camphor Tree+	<i>Cinnamomum camphora</i>	Pseudomonas Leaf Spot
Canna+	<i>Canna sp.</i>	Pseudomonas Leaf Spot
Carnation*	<i>Dianthus sp.</i>	Alternaria Blight, Pseudomonas Leaf Spot, & Botrytis Blight
Chinese Tallow Tree+	<i>Sapium sebiferum</i>	Bacterial Leaf Spot (Xanthomonas sp., Pseudomonas sp.)
Chrysanthemum*	<i>Chrysanthemum morifolium</i>	Septoria Leaf Spot, & Botrytis Blight
Cotoneaster	<i>Cotoneaster sp.</i>	Botrytis Blight
Dahlia+	<i>Dahlia pinnata</i>	Alternaria Leaf Spot, Botrytis Gray Mold, Cercospora Leaf Spot
Date Palm+	<i>Phoenix canariensis</i>	Pestalotia Leaf Spot
Dianthus+	<i>Dianthus sp.</i>	Bacterial Spot, Bacterial Soft Rot
Dogwood+	<i>Cornus florida</i>	Anthracnose
Dusty Miller+	<i>Senecio cineraria</i>	Bacterial Leaf Spot (Pseudomonas cichorii)
Easter Lily**	<i>Lilium longiflorum</i>	Botrytis Blight
Echinacea+	<i>Echinacea sp.</i>	Bacterial Leaf Spot (Pseudomonas cichorii)
Elm "Drake"+	<i>Ulmus parvifolia</i>	Xanthomonas Leaf Spot
Euonymus	<i>Euonymus sp.</i>	Botrytis Blight & Anthracnose
European Fan Palm+	<i>Champaerops numilis</i>	Pestalotia Leaf Spot
Gardenia+	<i>Gardenia jasminoides</i>	Alternaria Leaf Spot, Botrytis Bud Rot, Cercospora Leaf Spot
Geranium+	<i>Pelargonium sp.</i>	Alternaria Leaf Spot, Botrytis Gray Mold, Cercospora Leaf Spot
Gladiolus	<i>Gladiolus sp.</i>	Alternaria Leaf Spot, Botrytis Gray Mold, Bacterial Leaf Blight
Golden Rain Tree+	<i>Koelreuteriapani-culata</i>	Bacterial Leaf Spot
Hibiscus+	<i>Hibiscus rosa-sinensis</i>	Bacterial Leaf Spot
Holly Fern+	<i>Cyrtomium falcatum</i>	Pseudomonas Leaf Spot
Impatiens+	<i>Impatiens sallerana</i>	Bacterial Leaf Spot
India hawthorn***	<i>Raphiolepis indica</i>	Anthracnose, Entomosporium Leaf Spot
Ivy (English, Algerian)*	<i>Hendera helix</i> , <i>H. canariensis</i>	Xanthomonas Leaf Spot
Ixora+	<i>Ixora coccinea</i>	Xanthomonas Leaf Spot
Juniper (Eastern Red Cedar)+	<i>Juniperus virginiana</i>	Anthracnose
Lantana+	<i>Lanatana camera</i>	Bacterial Leaf Spot
Lilac+	<i>Syringa sp.</i>	Cercospora Leaf Spot
Loblolly Bay+	<i>Gordonia lasianthus</i>	Anthracnose
Loquat+	<i>Eriobotrya japonca</i>	Entomosporium maculata, Colletotrichum sp.
Magnolia (Southern)+	<i>Magnolia grandiflora</i>	Algal Leaf Spot, Anthracnose, Bacterial Leaf Spot
Magnolia (Sweet Bay)	<i>Magnolia virginiana</i>	Anthracnose
Magnolia+	<i>Magnolia soulangiana</i>	Bacterial Leaf Spot
Mandevillas+	<i>Mandevilla sp.</i>	Anthracnose
Marigold+	<i>Tagetes sp.</i>	Alternaria Leaf Spot, Botrytis Leaf and Flower Rot, Cercospora Leaf Spot

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CROP	LATIN NAME	DISEASE
Mulberry, Weeping+	<i>Morus alba</i>	Bacterial Leaf Spot
Oak, Laurel+	<i>Quercus laurifolia</i>	Algal Leaf Spot (<i>Cephaleuros virescens</i>)
Oleander+	<i>Nerium oleander</i>	Bacterial Leaf Spot, Fungal Leaf Spot
Pachysandra	<i>Pachysandra procumbens</i>	Volutella Leaf Blight
Pansy+	<i>Viola sp.</i>	Downy Mildew
Pear (Flowering)+	<i>Pyrus calleryana</i>	Fireblight, Leaf Spot
Pentas (Egyptian Star)+	<i>Pentas spp.</i>	Bacterial Leaf Spot (<i>Xanthomonas sp.</i>)
Peony+	<i>Paeonia spp.</i>	Botrytis Blight
Periwinkle	<i>Catharanthus roseus, Vinca sp.</i>	Phomopsis Stem Blight
Philodendron	<i>Philodendron selloum</i>	Bacterial Leaf Spot
Phlox+	<i>Phlox sp.</i>	Alternaria Leaf Spot
Photinia (Red Top, Red Leaf)+	<i>Photinia fraserii, P. glabra</i>	Anthracnose, Entomosporium
Pistachio+	<i>Pistacia chinensis</i>	Anthracnose
Plantain Lily+	<i>Hosta sp.</i>	Bacterial Leaf Spot
Powder Puff Plant+	<i>Callindra sp.</i>	Bacterial Leaf Spot
Pyracantha	<i>Pyracantha sp.</i>	Fireblight & Scab
Queen Palm+	<i>Arecastrum romanzoffianum</i>	Exosporium Leaf Spot, Phytophthora Bud Rot
Rhododendron+	<i>Rhododendron sp.</i>	Alternaria Flower Spot
Rose*	<i>Rosa sp.</i>	Powdery Mildew, Black Spot
Verbena+	<i>Verbena sp.</i>	Xanthomonas Leaf Spot
Viburnum+	<i>Viburnum odoratissimum, V. suspensum</i>	Anthracnose
Washingtonia Palm+	<i>Washingtonia robusta</i>	Pestalotia Leaf Spot
Weeping Willow+	<i>Salix babylonica</i>	Anthracnose
Yucca (Adams Needle)	<i>Yucca sp.</i>	Cercospora & Septoria Leaf Spot

+ Not for use in California.

*Discoloration of foliage and/or blooms have been noted on some varieties. To prevent residues on commercial plants, do not spray just before selling season.

**For Easter Lily, use 2 to 3 lbs. per acre in 20 to 100 gallons water.

***For India hawthorn, use 1 to 2 lbs. per 100 gallons.