10163-316 08/08/2012 1/19

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Kyla Smith
Gowan Company
PO Box 5569
Yuma AZ 85366 5569

AUG 0 8 2012

Subject Labeling Amendment to GWN 4620 Copper Fungicide/Bactericide
EPA Registration No 10163 316
Decision No 467871
Submission Date 7/19/12

Dear Ms Smith

The labeling referred to above submitted under the Federal Insecticide Fungicide and Rodenticide Act as amended to change the REI to 48 hours as per the Copper RED is acceptable provided you make the following changes

1 Paginate the label
2 On pg 2 change the heading General Instructions and Information to Product Instructions and Information
3 On pg 2 revise the first sentence of the second paragraph under Application to read Apply GWN 4620 at the rate of 1 3 3 quarts per 100 gallons of spray solution for consistency with the rate tables
4 On page 2 in the Compatibility section add the statement Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures

A copy stamped Accepted with Comments is enclosed for your records Please submit one (1) final printed copy for the above mentioned label before releasing the product for shipment If you have any questions please contact Dominic Schuler at (703) 347 0260 or via email at schuler dominic@epa gov

Sincerely

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

GWN-4620
COPPER FUNGICIDE/BACTERICIDE

ACTIVE INGREDIENT	
Copper sulfate pentahydrate	12 77 /
OTHER INGREDIENTS	87 23 /
Total	100 0 /

Metallic copper equivalent 3 25 /

Contains 0 34 pounds metallic copper per gallon

KEEP OUT OF REACH OF CHILDREN
CAUTION

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 swallowed	Call a poison control center or doctor immediately for treatment advice 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
If inhaled	Move person to fresh air If person is not breathing call 911 or an ambulance then give artificial respiration preferably by mouth to mouth if possible Call a poison control center or doctor for further treatment advice
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 Call a poison control center or doctor for treatment advice
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment You may also contact **1 888-478 0798** for emergency medical treatment information	
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate use of gastric lavage See label for additional precautions and directions for use	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed Causes moderate eye irritation Avoid contact with eyes and clothing Wash thoroughly with soap and water after handling and before eating drinking chewing gum or using tobacco

ACCEPTED
with COMMENTS
In EPA Letter Dated

AUG 0 8 2012

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg No

10163-316

EPA Reg No 10163 316
EPA Est No XXXXX XX XX

Gowan
The Go To Company

Produced For
Gowan Company
P O Box 5569
Yuma AZ 85366

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear

Long sleeved shirt and long pants
Chemical resistant gloves
Shoes plus socks

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

USER SAFETY RECOMMENDATIONS

Users should

Wash hands before eating drinking chewing gum using tobacco or using the toilet
Remove clothing immediately if pesticide gets inside Then wash thoroughly and put on clean clothing

ENVIRONMENTAL HAZARDS

Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas Do not contaminate water when cleaning equipment or when disposing of equipment washwaters

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling Follow all directions on the EPA approved label and any supplemental 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 intervals The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard

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

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

Long sleeved shirt and long pants
Chemical resistant gloves
Shoes plus socks

NON AGRICULTURAL USE REQUIREMENTS

The requirements in the 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 Keep unprotected persons out of treated area until sprays have dried

GENERAL INSTRUCTIONS AND INFORMATION

GWN 4620 may be applied as an aerial ground dilute or ground concentrate spray unless specifically directed otherwise in the specific crop use directions

Application GWN 4620 can be applied with any type of application equipment that gives uniform coverage of all foliage including ground aerial and low volume sprayers and chemigation equipment specified on this label The volume of water needed will depend on the spray equipment and the size of the crops Use in sufficient water to provide thorough coverage Metal piping or equipment used for application should be brass or stainless steel

Apply GWN 4620 at the rate of 1-4 quarts per 100 gallons of spray solution Apply in enough volume to ensure thorough coverage of foliage or fruit Thorough coverage is required for optimum disease control Under low levels of diseases use the lower rate of GWN-4620 per 100 gallons of spray solution Maximum rates per 100 gallons should be used when disease conditions are severe

Mixing When mixing fill spray tank half full with water Add GWN 4620 to tank while hydraulic or mechanical agitation is operating and continue filling with water Spreaders stickers (cleared for application to growing cops) nutrients etc should be added last

Use within 48 hours after mixing

Compatibility Compatible with most fungal and insecticidal biopesticides when applied at least 2 days before or after application of the biopesticide

Before combining with other fungicides bactericides insecticides or plant nutritional products perform the Compatibility Jar Test before mixing a whole tank

Plant Safety Phytotoxicity – GWN 4620 has been tested on a wide variety of plants without pytotoxicity symptoms However be ause it is not possibly to test all plant species varieties and cultivars and because environmental facto s and /arie al stage of growth ma affect phytotoxic expression it is recommended that a small group of test plants be treated at the anticipated dosage rate and observed for 5 to 7 days to determine phytotoxicity before treating large numbers of those plants

4/19

GENERAL CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of systems sprinklers including center pivot lateral move traveler big gun or plastic pipe solid set system(s) Do not apply this product through any other type of irrigation system Crop injury lack of effectiveness or illegal pesticide residues in the crop can result from non uniform distribution of treated water If you have questions about calibration you should contact State Extension Service specialists equipment manufacturers or other experts Do not 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 Shut off injection equipment after treatment and continue to operate irrigation system until GWN-4620 has been cleared from the last sprinkler head

NOTE It must be determined if proper application equipment is available and if waste associated with its use can be properly handled Agricultural chemicals are often reactive with the materials used in the construction of application equipment such as aluminum rubber and some synthetic materials This factor should be taken into consideration when selecting proper application equipment It is necessary that all application equipment be thoroughly flushed with clean water after each day s use When mixing fill the nurse tank half full with water Add GWN 4620 slowly to tank while hydraulic or mechanical agitation is operation and continue filling with water Stickers spreaders insecticides nutrients etc should be added last If compatibility is in question use the Compatibility Jar Test before mixing a whole tank Because of the wide variety of possible combinations which can be encountered observe all precautions and limitations on the labels of all products used in mixtures Agitation of the mixture in the nurse tank is recommended GWN-4620 should be added through a traveling irrigation system continuously or at the last 30 minutes of solid irrigation systems

Using Water from Public Water Systems Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regular 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 back flow 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 flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection The pesticide injection pipeline must contain a functional normally closed solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected
Systems must use a metering pump such as a positive displacement injection pump (e g diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock

Sprinkler Irrigation Systems
The system must contain a functional check valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow
The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection pump The 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
The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected
Systems must use a metering pump such as a positive displacement injection pump (e g diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock
Do not apply when wind speed favors drift beyond the area intended for treatment

SPRINKLER OR DRIP CHEMIGATION SYSTEMS
The system must contain a functional check valve vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow
The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection pump
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
The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected
Systems must use a metering pump such as a positive displacement injection pump (e g diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock
Do not apply when wind speed favors drift beyond the area intended for treatment

APPLICATION DIRECTIONS

Application rates are provided as quarts per 100 gallons of spray solution Adjust the quantity of GWN-4620 accordingly based on the spray volume required per acre to assure thorough coverage

CROP	PEST	QUARTS PER 100 GALLONS OF TOTAL SPRAY SOLUTION	COMMENTS
		CITRUS	
CITRUS	Algal Spot Melanose Scab	1 – 3 3	Apply as pre bloom and post bloom sprays Use higher rates when conditions favor disease development
	Greasy Spot Pink Pitting	1 – 3 3	Apply in summer on expanded new flush Repeat on subsequent flushes where disease pressure is severe Use higher rates when conditions favor disease development
	Alternaria Brown Spot (Suppression)	1 – 3 3	On susceptible varieties apply when the first spring flush appears and each flush thereafter Application to the fruit should start after two thirds of the petals have fallen and be repeated on a 21 day schedule **NOTE** When using lower rates use shorter spray intervals (7 to 14 days)
	Phytophthora Brown Rot Septoria Spot	1 – 3 3	Begin application in fall before or just after the first rain and continue as needed Apply to entire tree for Septoria or just the lower 4 to 5 feet of the tree for Brown Rot Apply also to bare ground 1 foot beyond skirt Use higher rates when conditions favor disease development
	Phytophthora Foot Rot	1 – 3 3	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 1 year but does not cure existing infections **NOTE** Areas where microjet or low volume irrigation hit the tree trunk may require retreatment due to wash off
	Citrus Canker (Suppression)	1 – 3 3	Spray flushes 7 to 14 days after shoots begin to grow Young fruit may require an additional application Number and timing of applications will be dependent upon disease pressure Under heavy pressure each flush of new growth should be sprayed
	Adding foliar micronutrients or other products to spray mixture containing GWN-4620 and applying to citrus during the post bloom period when young fruit is present may result in pytotoxicity Do not use GWN 4620 on citrus seedlings grown in greenhouses or shadehouses Field Nursery Grown To control brown rot citrus canker (suppression) greasy spot melanose pink pitting and for scab apply 3 6 quarts per acre at a rate of 200 gallons of spray mixture per acre Apply GWN 4620 at 28 day intervals or as needed depending on disease severity Minimum retreatment interval = 7 days Do not apply more than 36 4 quarts of formulated product per acre per application Do not apply more than 146 quarts of formulated product per acre per season		
		FIELD CROPS	
ALFALFA	Cercospora Leaf Spot Leptosphaerulina Leaf Spot	1 – 3 3	Apply 10 to 14 days before each harvest or earlier if disease threatens **NOTE** Spray injury may occur with sensitive varieties such as Lahontan
	Minimum retreatment interval = 30 days Do not apply more than 6 12 quarts of formulated product per acre per application Do not apply more than 12 9 quarts of formulated product per acre per season		
PEANUTS	Cercospora Leaf Spot	1 – 3 3	Begin spraying at 35 to 40 days after planting or when disease symptoms first appea and repeat at 10 to 14 day interval as needed Use higher rates and reduce spray intervals o 7 da when conditions favor disease development
	Minimum retreatment interval = 7 days Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 54 8 quarts of formulated product per acre per season		
POTATOES	Early Blight Late Blight	1 – 3 3	Apply lower ates at 7 to 10 day ntervals start ng when pla its are G inc ies hi jh when disease pressure i light nd highe rates where disease pressure is more severe Under conditions of severe disease control with GWN 4620 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
	Minimum retreatment interval = 5 days Do not apply more than 28 9 quarts of formulated product per acre per application Do not apply more than 289 quarts of formulated product per acre per season		
SOYBEANS (Not for use in CA)	Alternaria Leaf Spot (Alternaria spp)	1 – 3 3	Apply when mechanical injury insect damage or another disease has occurred
	Bacterial Blight (Pseudomonas syringae) Bacterial Pustule (Xanthomonas campestris)	1 – 3 3	Begin applications from the first node through third node development on the main stem with fully developed leaves beginning with the unifoliotate leaves (V1 – V3 growth stages) or when extended periods of wet weather are favorable for disease development Continue on a 7 to 10 day schedule when conditions continue to favor disease development
	Brown Spot (Septoria glycines)	1 – 3 3	Begin application at full bloom to when pods are 3/16 in length (R2 – R3 growth stages) or when extended periods of wet weather are favorable for disease development Continue on a 7 to 10 day schedule when conditions continue to favor disease development
	Cercospora Leaf Blight (Cercospora kikuchii)	1 – 3 3	Begin application when seed in a pod is 1/8 long through beginning pod maturity (R5 – R7 growth sages) Continue on a 7 to 10 day schedule when conditions are favorable for disease development
	Downy Mildew (Peronospora manchurica)	1 – 3 3	Begin applications when conditions favor disease development (high humidity and cool temperatures) Continue on a 7 to 10 day schedule if weather conditions remain cool and wet
	Frogeye Leaf Spot (Cercospora sojina)	1 – 3 3	Begin applications when wet conditions exist Continue on a 7 to 10 day schedule when conditions are favorable for disease development
	Pod & Stem Blight (Diaporthe phaseolorum and Phomopsis longicola)	1 – 3 3	Begin application when seed in a pod is 1/8 long through beginning pod maturity (R5 – R7 growth sages) or when extended periods of wet weather are favorable for disease development Continue on a 7 to 10 day schedule if conditions continue to favor disease development
	Powdery Mildew (Microsphaera manshurica)	1 – 3 3	Begin applications when conditions favor disease development (cool humid nights and mild daytime temperatures) Continue on a 7 to 10 day schedule if weather conditions remain cool and wet
	Minimum retreatment interval = 7 days Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 54 8 quarts of formulated product per acre per season		
SUGAR BEETS	Cercospora Leaf Spot	1 – 3 3	Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals or as needed Use the higher rate when disease is severe
	Minimum retreatment interval = 10 days Do not apply more than 15 1 quarts of formulated product per acre per application Do not apply more than 90 8 quarts of formulated product per acre per season		
WHEAT OATS BARLEY	Helminthosporium Blotch Helminthosporium Spot Septoria Leaf Blotch	1 – 3 3	Make first applications at early heading and follow with second spray 10 days later Use the higher rates when conditions favor disease development
	Minimum retreatment interval = 10 days Do not apply more than 6 12 quarts of formulated product per acre per application Do not apply more than 12 2 quarts of formulated product per acre per season		
	SMALL FRUIT		
BLACKBERRIES (AURORA BOYSEN CASCADE CHEHALEM LOGAN MARION SANTIAM THORNLESS EVERGREEN)	Anthracnose Cane Spot Leaf Spot Pseudomonas Blight Purple Blotch Yellow Rust	1 – 3 3	Make fall application after harvest Apply delayed dormant spray after pruning/training in the spring Add 1 quart of crop oil per acre
	Anthracnose Cane Spot Leaf Spot Purple Blotch Yellow Rust	1 – 3 3	Apply when leaf buds begin to open and repeat when flower buds show white **NOTE** Crop injury may occur if applied to foliage under certain environmental conditions such as hot or prolonged moist periods Discontinue applications if signs of crop injury appear
	Minimum retreatment interval = 7 days Do not apply more than 23 1 quarts of formulated product per acre per application Do not apply more than 116 quarts of formulated product per acre per season		

BLUEBERRIES	Bacterial Canker	1 – 3 3	Make first application before fall rains and a second application 4 weeks later
	Fruit Rot Phompsis Twig Blight	1 – 3 3	Dormant application Begin applications when bloom buds begin to swell Make additional applications at 10 to 14 day intervals or as needed before blooms open
	Minimum retreatment interval = 7 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 97 1 quarts of formulated product per acre per season		
CRANBERRIES	Fruit Rots	1 – 3 3	Make first application at mid bloom One or two additional applications at 7 to 10 day intervals may be required
	Rose Bloom	1 – 3 3	Apply three sprays on 10 to 14 day schedule as soon as symptoms are observed
	Leaf Spots Lophodermium Twig Blight Red Leaf Spot Tip Blight (Monilinia)	1 – 3 3	Apply delayed dormant spray in the spring Repeat at 10 to 14 day intervals or as needed through pre bloom
	Minimum retreatment interval = 7 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 146 quarts of formulated product per acre per season		
CURRANTS GOOSEBERRIES	Anthracnose Leaf Spot	1 – 3 3	Make initial application after fist leaves have expanded Continue on a 10 to 14 day schedule during wet conditions in the spring Make an additional application after harvest
	Minimum retreatment interval = 10 days Do not apply more than 46 2 quarts of formulated product per acre per application Do not apply more than 185 quarts of formulated product per acre per season		
RASPBERRIES	Anthracnose Cane Spot Leaf Spot Pseudomonas Blight Purple Blotch Yellow Rust	1 – 3 3	Make fall application after harvest Apply delayed dormant spray after training in the spring Add quart of crop oil per acre
	Anthracnose Cane Spot Leaf Spot Purple Blotch Yellow Rust	1 – 3 3	Apply when leaf buds begin to open and repeat when flower buds show white **NOTE** Crop injury may occur if applied to foliage under certain environmental conditions such as hot or prolonged moist environmental conditions Discontinue applications if signs of crop injury appear
	Minimum retreatment interval = 7 days Do not apply more than 23 1 quarts of formulated product per acre per application Do not apply more than 116 quarts of formulated product per acre per season		
STRAWBERRIES	Angular Leaf Spot (Xanthonomas) Leaf Blight Leaf Scorch Leaf Spot	1 – 3 3	Begin application when plants are established and continue on a weekly schedule throughout the season Use the higher rates when conditions favor disease **NOTE** Discontinue applications if signs of crop injury appear
	Minimum retreatment interval = 7 days Do not apply more than (17 3) quarts of formulated product per acre per application Do not apply more than 94 6 quarts of formulated product per acre per season		
	TREE CROPS		
ALMONDS APRICOTS CHERRIES PLUMS PRUNES	Bacterial Blast (Pseudomonas) Bacterial Canker Shot Hole	1 – 3 3	Make first application before fall rains and a second at late dormant Use higher rates when rainfall is heavy and disease pressure is high For cherries where disease is severe an additional application at leaf fall may be required
	Blossom Brown Rot Shot Hole	1 – 3 3	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 higher rates after full bloom
	Minimum retreatment interval = 7 days for dormant late dormant Minimum retreatment interval = 5 days for bloom / growing season For dormant or late dormant application do not apply more than 92 4 quarts of formulated product per acre per application For dormant or late dormant application do not apply more than 208 quarts of formulated product per acre per season For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 208 quarts of formulated product per acre per season		

TART CHERRIES	Cherry Leaf Spot (Not for use in CA)	1 – 3 3	Begin applications at the first cover spray (7 to 10 days after shuck split) Repeat as needed at 10 day intervals depending on the use of other cherry leaf spot fungicides in the disease control program Use the high rate under severe disease pressure Use of copper fungicides including GWN-4620 may result in phytotoxicty including yellow leaf blotches bronzing of lower leaf surfaces and premature leaf drop Phytotoxity will be more likely under warm dry conditions The addition of hydrated lime at a rate of 6 to 9 pounds per acre will help reduce phytotoxicity
	Minimum retreatment interval = 7 days for dormant late dormant up to pink bud Minimum retreatment interval = 5 days for bloom growing season For dormant or late dormant up to pink bud application do not apply more than 92 4 quarts of formulated product per acre per application For dormant or late dormant up to pink bud do not apply more than 208 quarts of formulated product per acre per season For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 208 quarts of formulated product per acre per season		
PLUMS	Black Knot (Not for use in CA)	1 – 3 3	Make an application at bud swell up to early bloom for early season disease suppression Apply before full bloom Use the higher rates when rainfall is heavy and disease pressure is high **NOTE** to avoid plant injury do not use after full bloom
	Minimum retreatment interval = 7 days for dormant late dormant up to pink bud Minimum retreatment interval = 5 days for bloom growing season For dormant or late dormant up to pink bud application do not apply more than 92 4 quarts of formulated product per acre per application For dormant or late dormant up to pink bud do not apply more than 208 quarts of formulated product per acre per season For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 208 quarts of formulated product per acre per season		
ALMONDS	Bacterial Blast	1 – 3 3	For bacterial blast control in sprinkler irrigated orchards or where disease is severe apply at 2 week intervals or just before irrigation **NOTE** Injury may occur from post bloom sprays on almonds especially on Neplus varieties
	Minimum retreatment interval = 7 days for dormant late dormant Minimum retreatment interval = 5 days for bloom / growing season For dormant or late dormant application do not apply more than 92 4 quarts of formulated product per acre per application For dormant or late dormant application do not apply more than 208 quarts of formulated product per acre per season For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 208 quarts of formulated product per acre per season		
APPLES	Fire Blight	1 – 3 3	Make applications up to green tip Apply as a full cover spray NOTE Crop injury may occur from application discontinue use at 7 inch green
	Fire Blight	1 – 3 3	Recommended for processing apples only as fruit russeting and leaf spotting are likely to occur Make one application during bloom
	Black Pox Black Rot Brooks Spot Flyspeck Sooty Blotch Summer Scab White Rot	1 – 3 3	Recommended for processing apples only as fruit russeting and leaf spotting are likely to occur **NOTE** Injury is more likely to occur on strains of Golden Delicious & Staymar Use of copper on weak or stressed trees can increase potential for leaf spotting/drop Do not apply prior to 3rd cover and make 3 applications in rotation with other registered fungicides Do not make more than 2 consecutive applications of GWN 4620
	Collar Rot Crown Rot	1 – 3 3	Apply 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
	Anthracnose Blossom Blast	1 – 3 3	Apply after harvest before fall rains Use higher rates

	European Canker Fire Blight Shoot Blast/Blister Spot (Pseudomonas)		under severe disease conditions
	Minimum retreatment interval = 5 days for bloom growing season Only 1 application per season permitted for fall late dormant and between silver tip and green tip For fall or late dormant application do not apply more than 92 4 quarts of formulated product per acre per application For between silver tip and green tip application do not apply more than 69 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For all application timings do not apply more than 185 quarts of formulated product per acre per season		
AVOCADOS	Anthracnose Blotch Scab	1 – 3 3	Apply when bloom buds begin to swell and continue application at monthly intervals for five to six applications Use higher rates when conditions favor disease development
	Minimum retreatment interval = 14 days Do not apply more than 36 4 quarts of formulated product per acre per application Do not apply more than 218 quarts of formulated product per acre per season		
BANANAS	Sigatoka	1 – 3 3	For air applications apply a minimum of 10 gallons finished spray per acre Apply on a 14 day schedule throughout the wet season Apply at 1 day intervals during dry periods
	Black Pitting	1 – 3 3	Mix in 100 gallons of water directing to the fruit stem and include the basal portion of the leaf crown Apply during the first and second weeks after fruit emergence
	Minimum retreatment interval = 7 days Do not apply more than 12 1 quarts of formulated product per acre per application Do not apply more than 218 quarts of formulated product per acre per season		
CACAO	Black Pod	1 – 3 3	Begin applications at the start of the rainy season and continue while infection periods persist Apply lower rates at 14 to 21 day intervals in high rainfall areas For drier areas use higher rates according to disease incidence and planting density
	Minimum retreatment interval = 14 days Do not apply more than 26 quarts of formulated product per acre per application Do not apply more than 182 quarts of formulated product per acre per season		
COFFEE	Coffee Berry Disease	1 – 3 3	Apply first spray after flowering and before onset of rains and then at 21 to 28 day intervals until picking Use higher rates when rainfall is heavy and disease pressure is high
	Bacterial Blight	1 – 3 3	Begin spray program applications before the onset of the 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 we weather Use higher rates when rainfall is heavy and disease pressure is high
	Leaf Rust (Hemileia vastatrix)	1 – 3 3	Apply before the onset of rain and then at 21 day intervals while the rains continue Use higher rates when rainfall is heavy and disease pressure is high
	Iron Spot (Cercospora) Pink Disease (Corticium)	1 – 3 3	Us concentrate or dilute spray Begin treatments at the start of the wet season and continue at monthly intervals for three applications
	Minimum retreatment interval = 14 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 146 quarts of formulated product per acre per season		
FILBERTS	Bacterial Blight	1 – 3 3	Apply as a postharvest spray In seasons of heavy rainfall apply a second spray when three fourths of the leaves have dropped Use higher rates when rainfall is heavy and disease pressure is high
	Eastern Filbert Blight	1 – 3 3	Apply as a dilute spray in adequate water for thorough coverage Make an application after harvest in October before winter rains begin Additional applications should be made at bud swell to bud bread and continued on a two week interval or as needed until early May Use higher rates when rainfall is heavy and disease pressure is high
	Minimum retreatment interval = 14 days Do not apply more than 69 3 quarts of formulated product per acre per application Do not apply more than 277 quarts of formulated product per acre per season		

MACADAMIA	Anthracnose	1 – 3 3	Begin applications 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)	1 – 3 3	Apply during raceme development and bloom periods Apply in sufficient water for thorough overage Use higher rates when conditions favor disease development
	Minimum retreatment interval = 7 days Do not apply more than 27 3 quarts of formulated product per acre per application Do not apply more than 109 quarts of formulated product per acre per season		
OLIVES	Olive Knot Peacock Spot	1 – 3 3	Apply post harvest 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 of when conditions favor disease development
	Minimum retreatment interval = 30 days Do not apply more than 69 3 quarts of formulated product per acre per application Do not apply more than 208 quarts of formulated product per acre per season		
PEACHES NECTARINES (WEST)	Bacterial Canker/Bacterial Blast (Pseudomonas) Bacterial Spot (Xanthomonas) Leaf Curl Shot Hole	1 – 3 3	Make dormant application after leaf drop and/or prior to bud swell Can be used with superior type oils
	Blossom Brown Rot Shot Hole	1 – 3 3	Full cover spray at pink bud
	Bacterial Spot	1 – 3 3	Post bloom application applied at first and second cover sprays NOTE Do not spray 3 weeks prior to harvest Use only recommended rates Spotting of leaves and defoliation may occur from use in cover sprays
	Minimum retreatment interval = 7 days For dormant or late dormant up to pink bud application do not apply more than 92 4 quarts of formulated product per acre per application For dormant or late dormant up to pink bud do not apply more than 208 quarts of formulated product per acre per season For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 208 quarts of formulated product per acre per season		
PEACHES NECTARINES (EAST)	Bacterial Canker/Bacterial Blast (Pseudomonas) Bacterial Spot (Xanthomonas) Leaf Curl	1 3 3	Make dormant application after leaf drop and/or prior to bud swell Can be used with superior type oils
	Bacterial Spot	1 – 3 3	After initial dormant application apply at early bud swell At pink bud make another application Make a third application at petal fall Do not apply after shuck split
	Minimum retreatment interval = 7 days For dormant or late dormant up to pink bud application do not apply more than 92 4 quarts of formulated product per acre per application For dormant or late dormant up to pink bud do not apply more than 208 quarts of formulated product per acre per season For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 208 quarts of formulated product per acre per season		
PEARS	Fire Blight	1 – 3 3	Apply at 5 day intervals throughout the bloom period **NOTE** Do not apply D Anjou pears Excessive dosages may cause fruit russet
	Blossom Blast (Pseudomonas)	1 – 3 3	Apply before fall rains and again during dormancy before spring growth start Use the higher rate when disease pressure is high or when conditions favor disease development
	Minimum retreatment interval = 5 days for bloom growing season Only 1 application per season permitted for fall late dormant and between silver tip and green tip For fall or late dormant application do not apply more than 92 4 quarts of formulated product per acre per application For between silver tip and green tip application do not apply more than 69 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For all application timings do not apply more than 185 quarts of formulated product per acre per season		

PECANS	Kernel Rot (Phytophthora cactorum) Shuck Rot Zonate Leaf Spot (Cristulariella pyramidalis)	1 – 3 3	For suppression apply in sufficient water volume to ensure complete coverage at 2 to 4 week intervals starting at kernel growth and continuing until shucks open Use the higher rate and shorter interval if frequent rainfall occurs
	Minimum retreatment interval = 14 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 97 1 quarts of formulated product per acre per season		
PISTACHIOS	Botryosphaeria Panicle Blight Botrytis Blight Late Blight (Alternaria alternate) Septoria Leaf Blight Shoot Blight	1 – 3 3	Make initial application at bud swell and repeat on a 14 day schedule as dictated by disease conditions If disease conditions are severe use the higher rates and shorter spray interval
	Minimum retreatment interval = 14 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 97 1 quarts of formulated product per acre per season		
QUINCE	Fire Blight	1 – 3 3	Apply at 5 day intervals throughout the bloom period Apply in adequate water volume for thorough coverage
	Minimum retreatment interval = 5 days for bloom growing season Only 1 application per season permitted for fall late dormant and between silver tip and green tip For fall or late dormant application do not apply more than 92 4 quarts of formulated product per acre per application For between silver tip and green tip application do not apply more than 69 3 quarts of formulated product per acre per application For bloom/growing season application do not apply more than 17 3 quarts of formulated product per acre per application For all application timings do not apply more than 185 quarts of formulated product per acre per season		
WALNUTS	Walnut Blight	1 – 3 3	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 if frequent rainfall occurs Thorough coverage of catkins leaves and nutlets is essential for effective control **NOTE** Adequate control may not be obtained when copper tolerant strains of Xanthomonas bacteria are present
	Minimum retreatment interval = 7 days Do not apply more than 46 2 quarts of formulated product per acre per application Do not apply more than 370 quarts of formulated product per acre per season		
	VEGETABLES		
BEANS (DRY GREEN)	Brown Spot Common Blight Downy Mildew Halo Blight	1 – 3 3	Use the higher rates when conditions favor disease development For protective sprays make fist application when plants are 6 inches high repeat on a 7 to 14 day schedule depending upon environmental conditions
	Minimum retreatment interval = 7 days Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 54 8 quarts of formulated product per acre per season		
CARROTS	Alternaria Leaf Spot Cercospora Leaf Spot	1 – 3 3	Begin applications when disease first threatens and repeat at 7 to 14 day intervals or as needed depending on disease severity
	Minimum retreatment interval = 7 days Do not apply more than 11 6 quarts of formulated product per acre per application Do not apply more than 57 8 quarts of formulated product per acre per season		
CELERY CELERIAC	Bacterial Blight Cercospora Early Blight Septoria Late Blight	1 – 3 3	Begin applications when plants are first established in the field repeating at 7 day intervals depending on disease severity and environmental conditions
	Minimum retreatment interval = 7 days Do not apply more than 11 6 quarts of formulated product per acre per application Do not apply more than 61 2 quarts of formulated product per acre per season		

CRUCIFERS (BROCCOLI BRUSSELS SPROUTS CABBAGE CAULIFLOWER COLLARD GREENS MUSTARD GREENS TURNIP GREENS)	Black Leaf Spot (Alternaria) Black Rot (Xanthomonas) Downy Mildew	1 – 3 3	Apply at 7 to 10 day intervals Begin applications after transplants are set in the field or shortly after emergence of field seeded drops or when conditions favor disease development Use higher rates when conditions favor disease **NOTE** Reddening of older leaves may occur on broccoli and a flecking of wrapper leaves may occur on cabbage
	Minimum retreatment interval = 7 days Do not apply more than 6 12 quarts of formulated product per acre per application Do not apply more than 30 6 quarts of formulated product per acre per season		
CUCURBITS (CANTALOUPES CUCUMBERS HONEYDEW MUSKMELON PUMPKINS SQUASH WATERMELONS)	Alternaria Leaf Spot Angular Leaf Spot Anthracnose Downy Mildew Gummy Stem Blight Powdery Mildew Watermelon Bacterial Fruit Blotch (Suppression)	1 – 3 3	Begin application when conditions are favorable for disease development Repeat at 5 to 7 day intervals Use shorter intervals when conditions are favorable for disease development **NOTE** Cop injury may occur from applications at shorter intervals Discontinue use if injury occurs
	Minimum retreatment interval = 5 days Do not apply more than 12 1 quarts of formulated product per acre per application Do not apply more than 60 7 quarts of formulated product per acre per season		
EGGPLANT	Alternaria Blight Anthracnose Phomopsis	1 – 3 3	Begin applications prior to development of disease symptoms Repeat sprays at 7 to 10 day intervals or as needed depending on disease severity
	Minimum retreatment interval = 7 days Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 91 3 quarts of formulated product per acre per season		
LETTUCE	Downy mildew	1 – 3 3	Apply by ground or air when disease appears and repeat at 7 10 day intervals Slight injury may occur under adverse weather conditions
	Minimum retreatment interval = 5 days Do not apply more than 11 6 quarts of formulated product per acre per application Do not apply more than 92 4 quarts of formulated product per acre per season		
ONIONS GARLIC	Bacterial Blight Downy Mildew Purple Blotch	1 – 3 3	Begin when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals or as needed depending upon disease pressure Can cause phytotoxicity to leaves
	Minimum retreatment interval = 7 days Do not apply more than 11 6 quarts of formulated product per acre per application Do not apply more than 69 3 quarts of formulated product per acre per season		
PEAS	Powdery Mildew	1 – 3 3	Begin applications when disease symptoms first appear and repeat at weekly intervals as needed Us higher rats when conditions favor disease development
	Minimum retreatment interval = 7 days Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 45 6 quarts of formulated product per acre per season		
PEPPERS	Anthracnose Bacterial Spot Cercospora Leaf Spot	1 – 3 3	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 when conditions are favorable for disease development
	Minimum retreatment interval = 3 days Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 137 quarts of formulated product per acre per season		
SPINACH	Anthracnose Blue Mold Cercospora Leaf Spot White Rust	1 – 3 3	Begin applications when disease first appears or when conditions favor disease development Repeat at 7 to 10 day intervals as needed Use higher rates when conditions favor disease development **NOTE** Flecking may occur on spinach leaves
	Minimum retreatment interval = 7 days Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 45 6 quarts of formulated product per acre per season		
TABLE BEETS	Cercospora Leaf Spot	1 – 3 3	Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals or as needed Use the higher rate when disease is severe
	Minimum retreatment interval = 10 days Do not apply more than 15 1 quarts of formulated product per acre per applicatio Do not apply more than 90 8 quarts of formulated product per acre per season		

TOMATOES (Fresh Market)	Anthracnose Bacterial Speck Bacterial Spot Early Blight Gray Leaf Mold Late Blight Septoria Leaf Spot	1 – 3 3	Begin applications when disease first threatens and repeat at 5 to 10 day intervals or as needed depending on disease severity Use higher rates when conditions favor disease development
	Minimum retreatment interval = 3 days Do not apply more than 18 5 quarts of formulated product per acre per application Do not apply more than 92 4 quarts of formulated product per acre per season		
TOMATOES (Processing)	Anthracnose Bacterial Speck Bacterial Spot Early Blight Gray Leaf Mold Late Blight Septoria Leaf Spot	1 – 3 3	Begin applications when disease first threatens and repeat at 5 to 10 day intervals or as needed depending on disease severity Use higher rates when conditions favor disease development
	Minimum retreatment interval = 3 days Do not apply more than 6 12 quarts of formulated product per acre per application Do not apply more than 201 quarts of formulated product per acre per season		
WATERCRESS	Cercospora Leaf Spot	1 – 3 3	Begin applications when plants are first established in the field repeating at 7 to 14 day intervals depending on disease severity and environmental conditions Do not exceed four applications per crop Apply using ground equipment at no less than 50 gallons of water per acre
	Minimum retreatment interval = 7 days Do not apply more than 6 12 quarts of formulated product per acre per application Do not apply more than 24 5 quarts of formulated product per acre per season		
	VINES		
GRAPES	Black Rot Downy Mildew Phomopsis Powdery Mildew	1 – 3 3	Begin applications at late dormant up to bud bread with subsequent applications throughout the season depending up on disease severity **NOTE** Foliage injury may occur on copper sensitive varieties such as Concord Delaware Niagara and Rosette
	Minimum retreatment interval = 3 days Do not apply more than 34 7 quarts of formulated product per acre per application Do not apply more than 231 quarts of formulated product per acre per season		
HOPS	Downy Mildew	1 – 3 3	Make crown treatment after pruning but before training After training make additional applications at 7 to 10 day intervals or as needed Discontinue use 2 weeks before harvest
	Minimum retreatment interval = 10 days Do not apply more than 6 12 quarts of formulated product per acre per application Do not apply more than 30 6 quarts of formulated product per acre per season		
KIWI	Erwinia herbicola Pseudomonas fluorescens Pseudomonas syringae	1 – 3 3	Apply in 200 gallons of water per acre Make applications on a monthly basis A maximum of three applications may be made
	Minimum retreatment interval = 30 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 72 8 quarts of formulated product per acre per season		
	MISCELLANEOUS		
ATEMOYA	Anthracnose	1 – 3 3	Make initial application just before flowering and repeat on a weekly schedule
	Minimum retreatment interval = 7 days Do not apply more than 36 4 quarts of formulated product per acre per application Do not apply more than 146 quarts of formulated product per acre per season		
CARAMBOLA	Anthracnose	1 – 3 3	Make initial application just before flowering and repeat on a weekly schedule until just before harvest Apply in sufficient water for thorough coverage
	Minimum retreatment interval = 7 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 121 quarts of formulated product per acre per season		
CHIVES	Downy Mildew	1 – 3 3	Begin applications when plants are established in the field Repeat application every 7 o 10 days as dictated by disease conditions If disease pressure is high use the shorter spray interval
	Minimum retreatment interval = 7 days Do not apply more than 6 12 quarts of formulated product per acre per application Do not apply more than 30 6 quarts of formulated product per acre per season		
DILL	Phoma Leaf Spot Rhizoctonia Foliage Blight	1 – 3 3	Begin applications when plants are first established in the field and repeat at 7 to 10 day intervals depending upon disease severity and environmental conditions If disease pressure is high use the shorter spray interval and the higher rate
	Minimum retreatment interval = 7 days		

	Do not apply more than 9 13 quarts of formulated product per acre per application Do not apply more than 45 6 quarts of formulated product per acre per season		
DOUGLAS FIR	Rhabdocline Needlecast	1 – 3 3	Begin applications at bud break and repeat at 3 to 4 week intervals Apply in a tank mix with another registered compatible fungicide if moderate to severe disease pressure is present
	Minimum retreatment interval = 7 days Do not apply more than 23 1 quarts of formulated product per acre per application Do not apply more than 231 quarts of formulated product per acre per season		
GINSENG	Alternaria Leaf Blight Stem Blight	1 – 3 3	Begin GWN-4620 + Rovral applications as soon as plants have emerged in spring Applications should be repeated every 7 days until plants become dormant Apply fungicides at least 8 hours before rain Use of a spreader sticker or sticker is advised **NOTE** Alternaria Leaf and stem Blight is most severe in humid conditions such as those found in the dense canopies of 2 to 4 year old Ginseng It is very important that the stems be thoroughly covered with fungicide therefore use a spray apparatus that distributes the fungicide throughout the canopy
	Minimum retreatment interval = 7 days Do not apply more than 12 1 quarts of formulated product per acre per application Do not apply more than 60 7 quarts of formulated product per acre per season		
GUAVA	Anthracnose Red Algae	1 – 3 3	Make initial application just before flowering and repeat on a weekly schedule until just before harvest Apply in sufficient water volume for thorough coverage
	Minimum retreatment interval = 7 days Do not apply more than 14 2 quarts of formulated product per acre per application Do not apply more than 56 8 quarts of formulated product per acre per season		
LITCHI	Anthracnose	1 – 3 3	Make initial application just before flowering and repeat on a weekly schedule until just before harvest Apply in sufficient water volume for though coverage
	Minimum retreatment interval = 7 days Do not apply more than 14 2 quarts of formulated product per acre per application Do not apply more than 56 8 quarts of formulated product per acre per season		
OKRA	Anthracnose Bacterial Leaf Spot Leaf Spots Pod Spot Powdery Mildew	1 – 3 3	Begin treatment when disease first threatens and repeat every 5 to 10 days or as needed depending on disease severity Use the higher rates and shorter spray intervals when conditions favor disease
	Minimum retreatment interval = 5 days Do not apply more than 12 1 quarts of formulated product per acre per application Do not apply more than 60 7 quarts of formulated product per acre per season		
LIVE OAKS	Ball Moss	1 – 3 3	Apply 4 quarts 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
	Minimum retreatment interval = 7 days Do not apply more than 23 1 quarts of formulated product per acre per application Do not apply more than 231 quarts of formulated product per acre per season		
MAMEY SAPOTE	Algal Leaf Spot Anthracnose	1 – 3 3	Apply when conditions favor disease development Repeat on 14 to 28 day schedule as a disease severity and environmental conditions dictate Use higher rates when conditions favor disease development
	Minimum retreatment interval = 14 days Do not apply more than 24 3 quarts of formulated product per acre per application Do not apply more than 97 1 quarts of formulated product per acre per season		
PAPAYAS	Anthracnose	1 – 3 3	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 an approved spreader is recommended Use higher rates when conditions favor disease development
	Minimum retreatment interval = 7 days Do not apply more than 30 4 quarts of formulated product per acre per application Do not apply more than 245 quarts of formulated product per acre per season		

PARSLEY	Bacterial Blight (Pseudomonas sp)	1 – 3 3	Begin applications when plants are fist established in the field and repeat at 5 to 7 day intervals depending upon disease severity and environmental conditions
	Minimum retreatment interval = 10 days Do not apply more than 11 6 quarts of formulated product per acre per application Do not apply more than 69 3 quarts of formulated product per acre per season		
PASSION FRUIT	Anthracnose	1 – 3 3	Make initial application just before flowing and repeat on a weekly schedule until just before harvest Apply in sufficient water volume for though coverage
	Minimum retreatment interval = 7 days Do not apply more than 27 3 quarts of formulated product per acre per application Do not apply more than 109 quarts of formulated product per acre per season		
SUGAR APPLE	Anthracnose	1 – 3 3	Make initial application just before flowering and repeat on a weekly schedule until just before harvest Apply in sufficient water volume for thorough coverage
	Minimum retreatment interval = 7 days Do not apply more than 36 4 quarts of formulated product per acre per application Do not apply more than 146 quarts of formulated product per acre per season		
SYCAMORE	Anthracnose	1 – 3 3	Apply as a full cover spray Apply in 100 gallons of water or sufficient volume for thorough coverage Make first application at bud crack and second application 7 to 10 days later (at 10 / leaf expansion) Use higher rates when conditions favor disease development
	Minimum retreatment interval = 7 days Do not apply more than 23 1 quarts of formulated product per acre per application Do not apply more than 231 quarts of formulated product per acre per season		

SPECIFIC DIRECTION FOR SPRAY APPLICATIONS IN GREENHOUSE FIELD LANDSCAPE AND INTERIOR

Annual and Perennial Bedding Plants Potted Flowering Crops Tropical Foliage Cut Flower Crops and Nursery Crops Spray for thorough foliage coverage Re spray rates and intervals vary with severity of disease and adversity of environmental conditions In the event of heavy disease pressure intervals can be shortened to a minimum of 7 days Lower rates may be as effective as higher rates and should be tried first Routine preventive programs may be maintained at the lower rates Use of low volume equipment is effective against Botrytis and not effective against established powdery mildew and Xanthomonas infections Applications on actively growing tissue may be more effective than applications on dormant tissue

APPLICATION DIRECTIONS

Do not apply more than 23 1 quarts of formulated product per acre per application
Do not apply more than 231 quarts of formulated product per acre per season

CROP	PEST	QUARTS PER 100 GALLONS OF TOTAL SPRAY SOLUTION
ANNUAL AND PERENNIAL BEDDING PLANTS Such as but not limited to		
ALYSSUM	Botrytis	1 –3 3
	Downy Mildew	1 –3 3
BEGONIA	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
	Xanthomonas	1 –3 3
DAYLILY	Botrytis	1 –3 3
	Erwinia	1 –3 3
	Powdery Mildew	1 –3 3
DELPHINIUM	Pseudomonas	1 –3 3
DUSTY MILLER	Alternaria	1 –3 3
	Botrytis	1 –3 3
FUCHSIA	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
GERANIUM	Botrytis	1 –3 3
	Rust (preventive)	1 –3 3
	Rust (therapeutic)	1 –3 3
	Pseudomonas (preventive)	1 –3 3
	Pseudomonas (therapeutic)	1 –3 3
	Xanthomonas (preventive	1 3 3
	Xanthomonas (therapeutic)	1 –3 3

IMPATIENS	Alternaria	1 –3 3
	Botrytis	1 –3 3
	Pseudomonas	1 –3 3
NEW GUINEA IMPATIENS	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
IPOMOEA	Pseudomonas	1 –3 3
PANSY	Botrytis	1 –3 3
	Cercospora	1 –3 3
	Phytophthora	1 –3 3
PERENNIALS	Botrytis	1 –3 3
	Downy Mildew	1 –3 3
	Powdery Mildew	1 –3 3
PERIWINKLE / VINCA	Botrytis	1 –3 3
	Phytophthora	1 –3 3
RANUNCULUS	Bacterial Blight	1 –3 3
	Botrytis	1 –3 3
SALVIA	Downy Mildew	1 –3 3
SNAPDRAGON	Botrytis	1 –3 3
	Downy Mildew	1 –3 3
	Rust	1 –3 3
ZINNIA	Botrytis	1 –3 3
	Pseudomonas	1 –3 3
	Xanthomonas	1 –3 3
POTTED FLOWERING CROPS Such as but not limited to		
AFRICAN VIOLET	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
AZALEA	Botrytis	1 –3 3
	Colletotrichum	1 –3 3
	Cylindrocladium	1 –3 3
CALLA LILY	Botrytis	1 –3 3
	Erwinia	1 –3 3
CHRYSANTHEMUM	Botrytis	1 –3 3
	Erwinia	1 –3 3
	Powdery Mildew	1 –3 3
CYCLAMEN	Botrytis	1 –3 3
	Erwinia	1 –3 3
EATER LILY	Botrytis	1 –3 3
GERBERA	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
HYDRANGEA	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
KALANCHOE	Botrytis	1 –3 3
	Erwinia	1 –3 3
	Powdery Mildew	1 –3 3
LISIANTHUS	Botrytis	1 –3 3
ORCHID	Botrytis	1 –3 3
	Erwinia	1 –3 3
	Pseudomonas	1 –3 3
	Xanthomonas	1 –3 3
POINSETTIA	Botrytis	1 –3 3
	Powdery Mildew (preventive)	1 –3 3
	Powdery Mildew (therapeutic)	1 –3 3
	Scab	1 –3 3
	Erwinia (preventive)	1 –3 3
	Erwinia (therapeutic)	1 –3 3
	Xanthomonas (preventative)	1 –3 3
	Xanthomonas (therapeutic)	1 –3 3
PRIMULA	Botrytis	1 –3 3
	Erwinia	1 –3 3
ROSE BUSH	Black Spot (preventive)	1 –3 3
	Black Spot (therapeutic)	1 –3 3
	Botrytis (preventive)	1 –3 3
	Botrytis (therapeutic)	1 –3 3
	Cylindrocladium (preventive)	1 –3 3

	Cylindrocladium (therapeutic)	1 –3 3
	Powdery Mildew (preventive)	1 –3 3
	Powdery Mildew (therapeutic)	1 –3 3
TULIP	Botrytis	1 –3 3
TROPICAL FOLIAGE CROPS Such as but not limited to		
DRACAENA	Rust	1 –3 3
HIBISCUS	Botrytis	1 –3 3
	Pseudomonas	1 –3 3
	Xanthomonas	1 –3 3
IVY	Bacterial Leaf Spot	1 –3 3
	Botrytis	1 –3 3
SPATHIPHYLLUM	Botrytis	1 –3 3
	Cylindrocladium	1 –3 3
	Phytophthora	1 –3 3
TROPICAL FOLIAGE (GENERAL)	Botrytis	1 –3 3
	Erwinia	1 –3 3
	Powdery Mildew	1 –3 3
	Pseudomonas	1 –3 3
	Xanthomonas	1 –3 3
HERBACEOUS AND WOODY STOCK PLANTS AND CUTTINGS Such as but not limited to **Specific Directions for spray and dip applications during propagation** When harvesting cuttings on site spray or fog stock plants 1 to 2 days prior to taking cuttings Spray cuttings to drench again at same rate 2 to 3 days after sticking in rooting media or dip cuttings for a few seconds prior to sticking When using rooted callused or unrooted cuttings shipped in spray cuttings to drench 2 to 3 days after planting or sticking or dip cuttings for a few seconds prior to sticking Under severe disease pressure repeat in 7 to 10 days		
AZALEA	Cylindrocladium	1 –3 3
CHRYSANTHEMUM	Erwinia	1 –3 3
GERANIUM	Botrytis	1 –3 3
	Xanthomonas	1 –3 3
HYDRANGEA	Xanthomonas	1 –3 3
MINI ROSE	Cylindrocladium	1 –3 3
POINSETTIA	Botrytis	1 –3 3
	Erwinia	1 –3 3
	Scab	1 –3 3
TROPICAL FOLIAGE	Cylindrocladium	1 –3 3
	Erwinia	1 –3 3
CUT FLOWER CROPS Such as but not limited to		
GERBERA	Botrytis	1 –3 3
GLADIOLA	Botrytis	1 –3 3
LISIANTHUS	Botrytis	1 –3 3
ORCHID	Botrytis	1 –3 3
ROSE	Botrytis	1 –3 3
ZINNIA	Botrytis	1 –3 3
NURSERY CROPS Such as but not limited to		
AZALEA	Anthracnose	1 –3 3
	Botrytis	1 –3 3
	Cylindrocladium	1 –3 3
	Phytophthora	1 –3 3
BUXUS	Volutella	1 –3 3
DOGWOOD	Anthracnose	1 –3 3
	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
EUONYMUS	Anthracnose	1 –3 3
	Botrytis	1 –3 3
HAWTHORN	Cedar Apple Rust	–3 3
HYDRANGEA	Botrytis	1 3 3
	Cercospora	1 –3 3
	Powdery Mildew	1 –3 3
	Xanthomonas	1 –3 3

INDIAN HAWTHORN	Botrytis	1 –3 3
	Entomosporium	1 –3 3
JAPANESE MAPLE	Botrytis	1 –3 3
	Pseudomonas	1 –3 3
	Verticillium	1 –3 3
LILAC	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
	Pseudomonas	1 –3 3
ROSACEAE SUCH AS COTONEASTER MALUS MOUNTAIN ASH ORNAMENTAL CRABAPPLE ORNAMENTAL PEAR PYRACANTHA	Apple Scab	1 –3 3
	Botrytis	1 –3 3
	Fire Blight	1 –3 3
	Pseudomonas	1 –3 3
RHODODENDRON	See Soil Drench Application for Rates	1 –3 3
ROSE	See Flowering Potted Crops for Rates	1 –3 3
WOODY NURSERY CROPS	Botrytis	1 –3 3
	Powdery Mildew	1 –3 3
	Pseudomonas	1 –3 3
	Rhizoctonia	1 –3 3
NON BEARING FRUIT TREES AND VINES (DO NOT APPLY TO TREES THAT WILL BEAR FRUIT WITHIN ONE YEAR)		
APPLE	Fire Blight	1 –3 3
GRAPE	Botrytis	1 –3 3
POST HARVEST DIP APPLICATIONS ON CUT FLOWER CROPS **Specific Directions** Dip cut flowers/buds for a few seconds soon after cutting Adjust dip mixture to pH 5 5 – 6 5		
ALSTROMERIA	Botrytis	1 –3 3
FREESIA	Botrytis	1 –3 3
GLADIOLA	Botrytis	1 –3 3
ROSE	Botrytis	1 –3 3
SWEETPEA	Botrytis	1 –3 3
BULB DIP APPLICATIONS **Specific Directions** Dip bulbs for 5 minutes or spray bulbs to drip then allow to dry before planting		
CALLA LILY	Erwinia	1 –3 3
SOIL DRENCH APPLICATIONS – GEENHOUSE FIELD LANDSCAPE AND INTERIOR		
AFRICAN VIOLET	Phytophthora	1 –3 3
ASTER	Phytophthora	1 –3 3
AZALEA	Cylindrocladium	1 –3 3
	Rhizoctonia	1 –3 3
CYCLAMEN	Erwinia	1 –3 3
FERNS	Rhizoctonia	1 –3 3
GERANIUM	Botrytis	1 –3 3
HOSTA	Erwinia	1 –3 3
IMPATIENS	Phytophthora	1 –3 3
JAPANESE MAPLE	Verticillium	1 –3 3
PANSY	Phytophthora	1 –3 3
	Pythium	1 –3 3
PERIWINKLE	Phytophthora	1 –3 3
PITTOSPORUM	Rhizoctonia	1 –3 3
POINSETTIA	Rhizoctonia	1 –3 3
RHODODENDRON	Rhizoctonia	1 –3 3
ROSE	Black Spot	1 –3 3
SPATHIPHYLLUM	Phytophthora	1 –3 3

ORNAMENTAL TREES

CROP	PEST	QUARTS PER 100 GALLONS OF TOTAL SPRAY SOLUTION	COMMENTS
DOUGLAS FIR	Rhabdocline Needlecast	1 –3 3	Begin applications at bud break and repeat at 3 to 4 week intervals Apply in a tank mix with another registered compatible fungicide if moderate to severe disease pressure is present
LIVE OAKS	Ball Moss	1 –3 3	Apply 4 quarts 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
SYCAMORE	Anthracnose	1 –3 3	Apply as a full cover spray Apply in 100 gallons of water or sufficient volume for thorough coverage Make first application at bud crack and second application 7 to 10 days later (at 10 / leaf expansion) Use higher rates when conditions favor disease development

TURF

CROP	PEST	QUARTS PER 100 GALLONS OF TOTAL SPRAY SOLUTION	COMMENTS
TURFGRASS	Algae	1 –3 3	Apply in 5 gallons of water to control algae This product may be used alone or in combination with other registered fungicides as a maintenance spray
	NOTE Phytotoxicity may occur depending upon varietal differences If injury occurs discontinue use Minimum retreatment interval = 10 days		

STORAGE AND DISPOSAL

DO NOT contaminate water food or feed by storage or disposal
PESTICIDE STORAGE Store product in original container only away from other pesticides fertilizers food or feed
PESTICIDE DISPOSAL Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility
CONTAINER DISPOSAL Nonrefillable container Do not reuse or refill this container Offer for recycling if available Clean container promptly after emptying Triple rinse as follows Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip Fill the container / full with water and recap Shake for 10 seconds Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times

FOR 24 HOUR EMERGENCY ASSISTANCE (SPILL LEAK OR FIRE) CALL CHEMTREC® (800) 424 9300
For other product information contact Gowan Company or see Material Safety Data Sheet

NOTICE OF CONDITIONS OF SALE AND WARRANTY AND LIABILITY LIMITATIONS

Important Read the entire Directions for Use and Notice of Conditions of Sale and Warranty and Liability Limitations before using this product If terms are not acceptable return the unopened container for a full refund

Our directions for use of this product are based on tests believed to be reliable However it is impossible to eliminate all risk associated with the use of this product Crop injury inadequate performance or other unintended consequences may result due to soil or weather conditions off target movement presence of other materials method of use or application and other factors all of which are beyond the control of Gowan Company All such risks shall be assumed by the Buyer and User

Gowan Company warrants that this product conforms to the specifications on the label when used in strict conformance with Direction for Use subject to the above stated risk limitations TO THE EXTENT CONSISENT WITH APPLICABLE LAW GOWAN COMPANY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY

TO THE EXTENT CONSISENT WITH APPLICABLE LAW GOWAN COMPANY S EXCLUSIVE LIABILITY FOR ANY AND ALL LOSSES INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT WHETHER IN CONTRACT WARRANTY TORT NEGLIGENCE OR ANY OTHER LEGAL THEORY IS STRICTLY LIMITED TO THE PURCHASE PRICE PAID OR REPLACEMENT OF PRODUCT AT GOWAN COMPANY S SOLE DISCRETION