

Request for Submission of Data for Copper Master Label Data File

Date: February 24, 2006

To: Western IPM Center

From: [Ted Rogers](#)
OPMP, USDA

Greetings,

[Attached](#) is the most recent version of the Copper Master Label Data file. Many of you have been working with this data, correcting and adding to it, for some time now. If you have not reviewed it or if you still have not submitted data on use pattern and application rates to the Copper Sulfate Task Force please take some time to do so now. All corrections and additions should be sent to [Ron Landis](#).

There will be some data that has been submitted that does not appear in the file - I believe that those of you that submitted it are aware that the data is being maintained; however in these certain cases the data did not fit the file format and it is recorded separately.

If you are completely satisfied that you have submitted all the data that you have on your crops and that it appears here (or elsewhere) correctly disregard this and use your delete key. We will continue to use this as our touch stone as dialogue with the Agency continues. You may well see it again (and again).

Remember that as you prepare comment to the Agency include your use patterns and application rates in your comment even though we are working toward having all data that fits in this master file.

The Copper fungicide Preliminary Risk Assessment chapters / Proposed RED was published January 25. This means that we have entered the public process. The public comment period ends on March 27, 2006. I have sent out the comment guidance materials that were developed by Ron and his staff after you requested them on the conference call February 1. I will be sending these out at least one more time as we draw closer to the end of the comment period. If you need them sent to you again sooner let me know.

We continue to reach out to users of the copper compounds that may be still unaware of this process. This is important to assure that concerned users comment on the EFED Risk Assessment, the process and that they make sure that we have current application rates and use patterns for their particular crop management system.

I would request that any one currently on this list please forward this notice to anyone that you think may not be receiving these notices and should be. Also, anyone receiving this notice from someone other than me should (please) reply to me: Ted Rogers, trogers@ars.usda.gov, 202-720-3846.. Please send me your name, email address, phone number and affiliation (crop(farmer), commodity, commodity group, region, university scientist, extension specialist, consultant or other appropriate category or categories).

Please do not hesitate to contact me if you have any questions or comments.

Best,
Ted

[Ted Rogers](#)
Biologist, Senior Policy Analyst
USDA Office of Pest Management Policy
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[Web Site](#)

BASIC COPPER CARBONATE							
CROPS - ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Fiber Containers							
Plastic Film and Containers - container grown plants							
Plastic Film and Containers - plastic drainage pipe							
Styrofoam Containers							
COPPER EXPRESSED AS METALLIC FROM BASIC COPPER SULFATE							
CROPS - ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Alfalfa							
Almonds	1.42	9.8	14.7	1	1	2	
Althea (Rose of Sharon)							
Apples	4	8	8	0	1	1	SILVER TIP ONE TO THREE SPRAYS AT LEAF DROP IN FALL; ONE SPRAY AT BUD BREAK IN SPRING.
Apricots	3	4.5	6	1	2	4	
Aralia							
Arborvitae							
Asters							
Atemoya	0.8	0.8	0.8	1	2	4	21-30 DAY INTERVAL
Avacado	1.2	2	3.2	1	6	10	21-30 DAY INTERVAL
Azalea							
Bananas	0.5	0.5	0.5	2	6	12	14-30 DAY INTERVAL
Beans (Dry, Green)							
Beets							
Begonia							
Berries							
Blackberry	1	1	2	0	2	5	DELAYED DORMANT, PREBLOOM AND AFTER HARVEST
Blueberries							
Bougainvillea							
Boxwood							
Broccoli							
Brussels Sprout							
Bulbs (Gladiolus, Lilies, Tulips)		2.5		15	25	35	7-10 DAYS
Cabbage	0.6	0.6	1.2	1	2	4	14 DAY INTERVAL
Cacao							
Camellia							
Camellias							
Camphor Tree							
Caneberries							
Canna							
Cantaloupe, Melon	1	1	2	1	2	4	7-10 DAY INTERVAL
Carambola	1	1	1.6	1	2	2	30 DAY INTERVAL
Carnation							
Carrots	0.93	0.93	2.22	2	3	5	14 DAY INTERVAL
Cauliflower							
Cedar							
Celery	0.28	0.28	0.92	1	2	6	
Cherries (All)	2	4	8	0	3	5	LEAF FALL, LATE DORMANT, BUD SWELL AND UP TO EARLY BLOOM

Cherries (Sweet)	3.92	3.92	3.92	1	1	1	
Cherries (Sour Only)	0.28	1.5	3.7	1	3	4	DORMANT, PRE-BLOOM
Chinese Tallow Tree							
Chives							
Chrysanthemum							
Citrus	0.5	1	3.2	1	3	6	21-30 DAY INTERVAL
Coffee							
Cotoneaster							
Cranberries	3.7	3.7	3.7	0	1	4	DELAYED DORMANT, BUDBREAK, MID-SUMMER TO FRUIT
Crucifers							
Cucumber	0.93	0.93	2.22	1	2	3	7 DAY
Cucurbits (Melon)	0.93	0.93	2.22	1	2	3	7 DAY
Currants, Gooseberries							
Cypress							
Dahlia							
Date Palm							
Delphinium							
Dianthus							
Dill							
Dogwood							
Douglas Fir							
Dusty Miller							
Easter Lily							
Echinacea							
Eggplant	0.93	0.93	2.22	1	2	3	7 DAY
Elm "Drake"							
Euonymus							
European Fan Palm							
Filbert							
Gardenia							
Geranium							
Ginseng							
Gladiolus							
Golden Rain Tree							
Grapefruit	1	2	4	2	3	8	PETAL FALL TO LATE SUMMER ONE COVER SPRAY WITH MEFENOXAM AND/OR AFTER HARVEST
Grapes	1	2	1	0	0	4	
Greenhouse Grown Cut Flowers or Greens	0.01	0.03	0.24	1	2	10	
Guava	0.8	0.8	0.8	2	4	8	21-30 DAY INTERVAL
Hibiscus							
Holly Fern							
Hops							
Impatiens							
Indian Hawthorn							
Iris							
Ivy							
Ivy (English, Algerian)							
Ixora							
Juniper							
Kiwi							
Lantana							
Laurel							
Lemon	1.52	5.9	9.42	1	1	3	1-3 APPL.-FALL

Lettuce	0.36	0.36	0.36	1	1	1	
Lilac							
Lime	0.5	1	3.2	1	3	6	21-30 DAY INTERVAL
Linden							
Litchi	0.5	0.8	0.8	1	3	5	21-30 DAY INTERVAL
Loblolly Bay							
Loquat				1	2	3	21-30 DAY INTERVAL
Macadamia							
Magnolia							
Magnolia (Southern)							
Magnolia (Sweet Bay)							
Mamey Sapote	1	1.6	2.1	1	3	4	21-30 DAY INTERVAL
Mandevillas							
Mangos	1.2	2	2	4	6	9	21-30 DAY INTERVAL
Maple							
Marigold							
Mulberry, Weeping							
Narcissus							
Nectarines	1.18	7.92	16.83	1	1	1	
Oak							
Oak Trees							
Oleander							
Olives	0.17	7.95	14.7	1	1	2	
Onions	0.28	0.28	0.28	1	2	3	
Oranges	1	1.5	4	0	1.5	4	LATE SPRING/SUMMER
Ornamental Wood Shrubs & Vines (Azaleas)							
Outdoor Cut Flowers	0	0.02	0.06	1	1.5	4	
Pachysandra							
Pansy							
Papaya	1	1	2.4	2	6	12	21-30 DAY INTERVAL
Parsley							
Passion Fruit	0.6	1.6	1.6	1	2	3	21-30 DAY INTERVAL
Peaches, Nectarines	0.125		3	1	4	7	DORMANT THROUGH SHUCK- SPLIT/SHUCK OFF WITH RATES REDUCED FROM THE MAX TO MIN OVER THIS PERIOD. PRIMARY USE IS AGAINST BATERIAL SPOT.
Peanuts							
Pears	6	8	8	0	1	1	LATE DORMANT
Peas							
Pecans							
Pentas (Egyptian Star)							
Peonies							
Peppers	0.75	0.93	2.22	2	4	8	7 DAY
Periwinkle							
Philodendron							
Phlox							
Photinia (Red Tip, Red Leaf)							
Pine							
Pistachio	0.19	0.19	0.19	1	1	1	
Plantain Lily							
Plum	2	4	8	0	3	5	LEAF FALL, LATE DORMANT, BUD SWELL AND UP TO EARLY BLOOM

Plums, Prunes	8	10	16	1	1	2	NOV-MARCH
Potatoes							
Powder Puff Plant							
Pumpkins, Squash	0.93	0.93	2.22	1	2	3	7 DAY
Pyracantha							
Queen Palm							
Quinces	0.57	2.36	2.36	1	4	4	
Raspberries	0.28	2	2.2	0	2	2	DELAYED DORMANT, PREBLOOM AND AFTER HARVEST
Rhododendron							
Rose							
Snapdragon							
Spinach							
Spruce (Blue)							
Squash	0.57	0.57	0.57	4	4	4	
Squash (Summer)	0.28	0.28	0.28	1	1	1	
Stone Fruit	3.92	3.92	3.92	1	1	1	
Strawberries	0.28	1.5	1.85	0	3	4	COVER SPRAYS IF OBSERVED
Sugar Apple	1	2	3.2	2	4	10	21-30 DAY INTERVAL
Sugar Beets							
Sycamore							
Table Beets							
Tangelo	2.5	7.35	9.8	1	1	1	1 APPL.-FALL
Tangerines	0.5	2	4	2	5	15	FIRST FLUSH TO LATE SUMMER
Tomatoes	0.93	0.93	2.22	7	12	15	7 DAY
Turfgrass							
Vegetable Seedlings	1	1	2	4	4	8	7-10 DAY INTERVAL
Verbena							
Viburnum							
Violets							
Walnuts	1.14	7.84	19.6	1	2	4	
Washingtonia Palm							
Watercress							
Weeping Willow							
Wheat, Oats, Barley							
Yews							
Yucca (Adam's Needle)							
Zinnia							

COPPER EXPRESSED AS METALLIC DERIVED FROM COPPER AMMONIUM CARBONATE

CROPS -ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Almonds							
Apples							
Apricots							
Arbor Vitae							
Asters							
Avocados							
Azaleas							
Beans							
Beets							
Begonia							
Blackberries, Boysenberries, Dewberries, Loganberries, Raspberries							
Boxwood							
Broccoli							

Brussels Sprouts							
Bulbs (Gladiolus, Easter Lilies, Tulips)	0.86	0.78	0.98	15	25	35	7-10 DAYS
Cabbage							
Camellia							
Cantaloupe, Honeydews, Muskmelon, Watermelon, Squash							
Carnation							
Carrots							
Cauliflower							
Cedar							
Celery							
Celery							
Celery							
Ceratophyllum demersum (Coontail)							
Cherries (All)							
Cherries (Sour)							
Cherries, Plums Chlorophyceae (Green): Ankistrodesmus, Chara, Chlorella, Cladophora, Crucigenia, Desmidium, Golenkinia, Nitella, Oocystis, Palmella, Pithophora, Staurastrum, Scenedesmus, Tetraedron							
Chrysanthemum							
Citrus	0.2	0.3	0.6	1	3	10	10-21 DAYS
Cotoneaster							
Cucumber	0.2	0.2	0.6	1	2	3	7 DAY
Currants, Gooseberries							
Cyanophyceae (Blue- Green): Anabaena, Aphanizomenon, Cylindrospermum, Gloeotrichia, Gomphosphaeria, Microcystis, Oscillatoris, Plectonema, Polycystis							
Cypress							
Dahlia							
Delphinium							
Diatomaceae (Diatoms): Achanthes, Cymbella, Neidium							

Diatomaceae (Diatoms): Asterionella, Fragilaria, Gomphonema, Melosira, Navicula, Nitzschia, Stephanodiscus, Synedra, Tabellaria							
Dogwoods							
Egeria densa (Brazilian Elodea)							
Eggplant	0.2	0.2	0.6	1	2	3	7 DAY
Eichhornia crassipes (Water Hyacinth) Suppression							
Elodea canadensis (Elodea)							
Euonymus							
Gardenia							
Geranium							
Grapes							
Grapes (Wine)							
Greenhouse Flower							
Outdoor Cut Flowers							
Hydrilla verticillata							
Iris							
Ivy							
Juniper							
Laurel							
Lemon							
Lilac							
Linden							
Maple							
Marigold							
Melons: Cantaloupe, Casaba, Crenshaw, Honeydew, Muskmelon, Watermelon	0.2	0.2	0.6	1	2	3	7 DAY
Myriophyllum spicatum (Eurasian Watermilfoil)							
Najas sp. (Southern/Northern Naiads)							
Narcissus							
Oak Trees							
Olives							
Oranges	0.2	0.3	0.6	1	3	5	10-21 DAYS
Pachysandra							
Pansy							
Papaya							
Peaches, Nectarines							
Peanuts							
Pears							
Pecan							
Peony							

Peppers	0.2	0.2	0.6	1	2	3	7 DAY
Philodendron							
Phlox							
Pine							
Pistia stratiotes (Water Lettuce)							
Plums & Prunes							
Potamogeton nodosus (American Pondweed)							
Potamogeton pectinatus (Sago Pondweed)							
Potatoes							
Protozoa (Flagellates): Ceratium, Cryptomonas, Dinobryon, Euglena, Glendinium, Mallomonas, Synura, Uroglena, Volvox							
Protozoa (Flagellates): Chlamydomonoas, Eudorina, Hawmatococcus, Pandorina, Peridinium							
Pumpkins, Squash	0.2	0.2	0.6	1	2	3	7 DAY
Pyracantha							
Rhododendrom							
Rose							
Snapdragons							
Soybeans							
Spinach							
Spruce (Blue)							
Squash (Summer & Winter)							
Strawberries							
Sugar Beets							
Swimming Pool 5,000 gallons							
Swimming Pool 10,000 gallons							
Swimming Pool 20,000 gallons							
Swimming Pool 30,000 gallons							
Swimming Pool 40,000 gallons							
Swimming Pool 50,000 gallons							
Sycamore							
Tomatoes	0.2	0.2	0.6	1	2	3	7 DAY
Violet							
Walnuts							
Yew							
Zinnia							
COPPER AS ELEMENTAL (Derived from copper-triethanolamine complex)/COPPER AMMONIUM COMPLEX							
CROPS - ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Almonds	0.32	0.32	1.55	1	1	1	

Apples	0.17	0.17	0.17	1	1	1	
Avocado	0.01	0.01	0.01	1	1	1	
Blackberry	0.03	0.06	0.1	2	2	2	
Cherry	0.08	0.08	0.08	1	1	1	
Chlorophyceae (Green) Ankistrodesmus, Chara, Chlorella, Cladophora, Crucigenia, Desmidium, Golenkinis, Mitella, Oocystis, Palmia, Pithophora, Scenedesmus, Staurastrum, Tetraedron	1.35	2.7	2.7	1	1		2 7-10 DAYS
Chlorophyceae (Green) Botryococcus, Closterium, Coelastrum, Draparnidia, Enteromorpha, Gloecystis, Hydrodictyon, Microspora, Spirogyra, Tribonema, Ulothrix, Zygnema	0.5	0.5	1.35	1	2		2 7-10 DAYS
Cyanophyceae (Blue- green) Calothrix, nostoc, Phormidium, Symploca	1.35	1.35	2.7	1	1		2 7-10 DAYS
Cyanophyceae (Blue- green) Anabacna, Aphanizomenon, Cylindrospermum, Gloetricin, Composphaeria, Mucrocystis, Oscillatoria, Plectonema, Polycystis	0.27	0.27	1.35	1	4		6 7-10 DAYS
Distomaceae (Diatoms) Achnanthes, Cymbella, Neidium	1.35	1.35	2.7	1	1		2 7-10 DAYS
Distomaceae (Diatoms) Asterionella, Fragilaria, Gomphonema, Melosira, Navicula, Nitzschia, Stephanodiscus, Synedra, Tabellaria	0.5	0.5	1.35	1	1		2 7-10 DAYS

Filamentous Algae (mat-forming) Cladophora, Chara, Hydrodictyon, Oedogonium, Phormidium, Spirogyra	0.5	1.35	2.7	1	2	2	7-10 DAYS
Free Floating Algae (planktonic) Anabaena, Aphanizomenon, Chlorella, Dictyosphaerium, Euglena, Microcystis	0.27	0.27	1.35	1	4	6	7-10 DAYS
Grape	0.02	0.02	0.02	1	1	1	
Grapefruit	0.07	0.07	0.07	1	1.5	2	
Hydrilla Verticillata Control (ALGAE- RHAP® CU-7 + DIQUAT TANK-MIX)	1.35	1.35	2.7	1	1	2	10 TO 14 DAYS
Hydrilla Verticillata Control (ALGAE- RHAP® CU-7 + KOMEEN TANK-MIX)	1.35	1.35	2.7	1	1	2	10 TO 14 DAYS
Hydrilla Verticillata Control (ALGAE- RHAP® CU-7 + SONAR TANK-MIX)	0.2	1	1	1	1	1	
Lemon	0.06	0.62	1.03	1	1	2	
Olive	0.97	0.97	0.97	1	1	1	
Orange	0.02	0.07	0.23	1	1	3	
Peach	0.031	0.062	0.08	2	5	8	STARTING AT POST-BLOOM (SHUCK- SPLIT) AND 7-14 DAYS UNTIL PREHARVEST TIME LIMITATION.
Pear	0.57	0.57	0.57	1	1	1	
Protozoa (Flagellates) Ceratium, Cryptomonas, Dinobryon, Euglena, Glennodinium, Mallomonas, Synura, Uroglena, Volvox	0.5	1.35	1.35	1	1	2	7-10 DAYS

Protozoa (Flagellates) Chlamydomones, Curdorina, Hawinstococcus, Pandorina, Peridimina	1.35	1.35	2.7	1	2	4	7-10 DAYS
Raspberry	0.04	0.08	0.11	2	2	2	
Strawberry	0.39	0.39	0.39	1	1	1	
Swimming Pools 5,000 gallons							
Swimming Pools 10,000 gallons							
Swimming Pools 20,000 gallons							
Swimming Pools 30,000 gallons							
Swimming Pools 40,000 gallons							
Swimming Pools 50,000 gallons							
Tomato	0.32	0.32	0.32	1	1	1	
Walnuts	1.53	1.55	2.48	1	3.5	5	
COPPER EXPRESSED AS METALLIC FROM COPPER OXYCHLORIDE SULFATE							
CROPS -ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Almonds							
Apples	3	4.5	6	1	1	1	SILVER TIP TO HALF INCH GREEN ONE TO THREE SPRAYS AT LEAF DROP IN FALL; ONE SPRAY AT BUD BREAK IN SPRING.
Apricots	3	4.5	6	1	2	4	BREAK IN SPRING.
Azalea							
Beans							
Beets							
Berries							
Cantaloupes, Cucumbers, Cucurbits, Melons, Pumpkins, Squash, Watermelons							
Carrots							
Celery	0.09	0.23	0.36	2	2	2	
Cherries (Sweet)	0.88	0.88	0.88	1	1	1	
Cherries (Sour)	3	4.5	6	1	2	4	ONE TO THREE SPRAYS AT LEAF DROP IN FALL; ONE SPRAY AT BUD BREAK IN SPRING.
Citrus	0.5	1	3.2	1	3	6	21-30 DAY INTERVAL
Dahlia							
Eggplant							
Grapefruit	1	2	4	2	3	8	PETAL FALL TO LATE SUMMER
Grapes	1.13	2.89	3.27	1	2	7	
Hops							
Lettuce							
Maples & Oak							
Nasturtium							
Nectarines	4	4	6	1	1	2	LEAF DROP, DORMANT
Oranges	1	1.5	4	0	1.5	4	LATE SPRING/SUMMER
Pachysandra							
Peaches	4	4	6	1	1	1	LEAF DROP, DORMANT
Pears	1.52	1.52	1.52	1	1	1	

Peony							
Peppers							
Plums & Prunes							
Potatoes							
Raspberry	0.24	0.6	0.9	1	1	1	
Rose							
Strawberries							
Sugar Beets							
Tangerines	0.5	2	4	2	5	15	FIRST FLUSH TO LATE SUMMER
Tobacco							
Tomatoes							
Vegetable Seedlings							
Walnuts							
COPPER EXPRESSED AS METALLIC FROM COPPER HYDROXIDE							
CROPS - ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Aglaonema							
Alfalfa	0.35	0.75	0.75	1	2	5	FOLIAR
Almond, Apricot, Cherry, Plum, Prune	3	4.5	6	1	2	4	ONE TO THREE SPRAYS AT LEAF DROP IN FALL; ONE SPRAY AT BUD BREAK IN SPRING.
Almonds	0.38	3.23	7.7	1	1	2	
Althea (Rose of Sharon)		0.7		1	2	4	FOLIAR
Andromeda, Japanese							
Apple	0.18	2.1	2.8	1	2	4	FOLIAR
Apricot	0.75	2.28	3.15	1	2	3	FOLIAR
Apricot, Plum & Prune	1	2	3	1	1	2	DORMANT
Apricots							
Aralia		0.7	0.7	1	2	4	FOLIAR
Arborvitae		0.7	0.7	1	2	4	FOLIAR
Aster							
Atemoya	1.5	2.25	2.25	1	2	4	21-30 DAY INTERVAL
Avocado	2	2.5	3	4	6	10	FOLIAR
Azalea		0.7	0.7	1	2	4	FOLIAR
Bananas	0.5	0.53	5	5	10	12	FOLIAR
Barley, Wheat							
Bean (Green & Dry)	0.18	0.7	0.7	3	7	7	FOLIAR
Beech							
Beet	0.49	0.56	2.02	1	2	15	
Begonia		0.7	0.7	1	2	4	FOLIAR
Blackberries	0.26	0.53	0.53	1	2	5	DELAYED DORMANT, PREBLOOM, AND AFTER HARVEST; FOLIAR
Blueberries	1.51	1.97	2.42	1	1	1	
Boston Fern							
Bougainvillea		0.7	0.7	1	2	4	FOLIAR
Boxwood							
Boysenberry	1.54	1.58	1.61	1	1	1	
Broccoli, Brussel Sprouts, Cabbage	0.27	0.81	1.54	1	1	3	
Bulbs (Lily)	1.2	1.6	2	15	25	35	AS NEEDED
Cabbage	1	1	2	3	6	8	7-10 DAY INTERVALS
Cacao	0.7	1.4	2.1	1	2	4	FOLIAR
Camelia		0.7		1	2	4	FOLIAR
Camphor Tree		0.7		1	2	4	FOLIAR
Canna		0.7		1	2	4	FOLIAR

Cantaloupes, Honeydews & Muskmelons	0.35	0.7	0.79	3	7	7	7-14 DAY INTERVALS; FOLIAR
Carambola	1	2.5	3	1	2	4	30 DAY INTERVAL
Carnation		0.7		1	2	4	FOLIAR
Carrot	0.25	0.35	0.53	1	3	6	FOLIAR
Cauliflower	0.28	0.81	1.23	1	1	6	
Cedar							
Celeriac	0.53	0.56	0.56	2	13	20	
Celery	0.28	0.8	1.54	1	2	9	
Cherries (Sweet)	3.94	3.94	3.94	1	1	1	
Cherries (All)	2	4	6	1	3	5	LATE FALL, LATE DORMANT, BUD SWELL AND UP TO EARLY BLOOM
Cherry, Nanking							
Chinese Tallow Tree		0.7		1	2	4	FOLIAR
Chives	1.85	1.85	1.85	1	1	1	FOLIAR
Chrysanthemum		0.7		1	2	4	FOLIAR
Citrus	0.5	1.75	3.5	1	4	8	21-30 DAY INTERVAL; FOLIAR
Citrus (Field Nursery Grown)							
Citrus (Non-bearing Nursery)							
Coffee	0.53	1	2.1	5	10		FOLIAR
Collard	0.44	0.56	0.56	1	2	10	
Containers							
Corn (Sweet)	0.4	0.81	0.81	1	1	1	14 DAY
Cotoneaster		0.7		1	2	4	FOLIAR
Crabapple							
Cranberry	0.7	2.1	2.1	1	2	4	FOLIAR
Crucifers (Broccoli, Brussels Sprout, Cabbage, Cauliflower, Collard Greens, Mustard Greens, Turnip Greens)	1	1	2	3	6	8	7-10 DAY INTERVALS
Cucumber	0.35	0.7	0.79	1	2	4	7-14 DAY INTERVALS; FOLIAR
Cucurbits (Cantaloupe, Cucumber, Honeydew, Muskmelon, Pumpkins, Squash, Watermelon)	0.41	0.81	1.5	1	2	4	7-14 DAY INTERVALS
Currant, Gooseberry	0.7	2.63	2.63	1	2	4	FOLIAR
Cypress							
Dahlia		0.7		1	2	4	FOLIAR
Date Palm		0.7	1.4	1	2	4	FOLIAR
Delphinium							
Dianthus		0.7		1	2	4	FOLIAR
Dill	0.55	0.77	1.82	1	2	12	

Dogwood		0.7		1	2	4	FOLIAR
Dogwood (Flowering)							
Dogwood, Kousa							
Douglas Fir		0.7		1	2	4	FOLIAR
Dracaena							
Dumb Cane							
Dusty Miller		0.7		1	2	4	FOLIAR
Echinacea		0.7		1	2	4	FOLIAR
Eggplant	0.5	0.7	1.4	5	9		FOLIAR
Elm		0.7		1	2	4	FOLIAR
Elm, Chinese							
Endive, Escarole, Lettuce	0.57	0.58	0.61	2	2	3	
Euonymus		0.7		1	2	4	FOLIAR
European Fan Palm		0.7		1	2	4	FOLIAR
Fern, Boston							
Fern, Holly							
Fiber Containers							
Fig, Weeping							
Filbert	2.1	4.2	5.6	1	2	4	FOLIAR
Filbert (Ornamental)							
Fir							
Gardenia		0.7		1	2	4	FOLIAR
Garlic, Leek, Onion	1.15	1.35	1.54	1	1	1	
Geranium		0.7		1	2	4	FOLIAR
Ginseng		0.7	1.05	1	2	4	FOLIAR
Gladiola		0.7		1	2	4	FOLIAR
Golden Rain Tree		0.7		1	2	4	FOLIAR
Grape	0.35	1.4	1.4	1	4	6	ONE COVER SPRAY (WITH MEFENOXAM) AND/OR AFTER HARVEST
Grape (Wine)	0.27	0.81	2.31	1	1	5	
Grapefruit	1	2	4	2	3	8	PETAL FALL TO LATE SUMMER
Grape Ivy							
Greenhouse Grown Cut Flowers or Greens	0.19		2.74	3	5	6	
Guava	0.7	0.79	1.05	2	4	8	FOLIAR
Hawthorne							
Hibiscus		0.7		1	2	4	FOLIAR
Holly							
Holly Fern		0.7		1	2	4	FOLIAR
Honey Locust							
Honeysuckle, Tatarian							
Hops	0.35	0.7	0.7	1	2	4	FOLIAR
Impatiens		0.7		1	2	4	FOLIAR
Indian Hawthorne		0.7		1	2	4	FOLIAR
Inserts							
Iris							
Ivy							

Ivy (English, Algerian)		0.7			1	2	4	FOLIAR
Ixora		0.7			1	2	4	FOLIAR
Juniper								
Juniper (Eastern Red Cedar)		0.7			1	2	4	FOLIAR
Kale	1.05	1.05	1.05		1	1	1	
Kiwi	0.7	1.4	2.1		1	2	4	FOLIAR
Landscape Root Control Barriers (Plastic, or Sheet Metal)								
Landscape, Industrial Use Fabrics								
Lemon	0.77	3.07	9.42		1	1	2	
Lantana		0.7			1	2	4	FOLIAR
Lettuce (Head)	0.58	0.75	0.77		1	2	3	
Lettuce (Leaf)	0.28	0.58	0.77		1	2	6	
Lettuce, Endive, Escarole		0.7	1.05		1	2	4	FOLIAR
Leyland Cypress								
Lilac	0.35	0.7	0.7		1	2	4	FOLIAR
Lily, Easter	0.7				1	2	4	FOLIAR
Linden								
Litchi	0.7	0.79	1.05		1	3	5	FOLIAR
Live Oak		2.1			1	2	4	FOLIAR
Live Oak, Pecan								
Loblolly Bay		0.7			1	2	4	FOLIAR
Loquat	0.5	0.7	1.4		1	2	4	FOLIAR
Macadamia	0.7	1.4	2.1		1	2	6	FOLIAR
Magnolia (Oriental)								
Magnolia (Southern)		0.7	1.4		1	2	4	FOLIAR
Magnolia (Sweet Bay)		0.7	1.4		1	2	4	FOLIAR
Mamey Sapote		1.4	2.1		1	2	4	FOLIAR
Mandevilla	2.5	4	4		1	2	4	
Mango	2	2.4	2.6		8	10	10	FOLIAR
Maple								
Marigold		0.7			1	2	4	FOLIAR
Mountain-Ash								
Mulberry Contorted								
Mulberry, Weeping		0.7			1	2	4	FOLIAR
Mustard	0.22	0.56	0.56		1	4	20	
Narcissus								
Nephtytis								
Nectarines	0.77	7.63	11.09		1	1	2	
Oak Laurel		0.7			1	2	4	FOLIAR
Oleander		0.7			1	2	4	FOLIAR
Olive	0.7	2.1	3.15		1	2	4	FOLIAR
Onion, Garlic	0.28	0.53	0.53		2	6	8	FOLIAR
Oranges	1	1.5	3.2		1	1.5	4	LATE SPRING/SUMMER
Oregan Grapeholly								
Outdoor Cut Flowers	0.06	0.58	3.85		1	3	11	
Pachysandra		0.7			1	2	4	FOLIAR
Palm, Date								
Palm, European Fan								
Palm, Parlor								
Palm, Queen								
Palm, Washington								

Pansy		0.7			1	2	4	FOLIAR
Papaya	1.05	1.4	2.63		2	6	12	FOLIAR
Parsley	0.55	0.56	1.21		1	2	4	
Passion Fruit		1.4	2.1		1	2	4	FOLIAR
Pea								
Peach	0.125		3		1	4	7	DORMANT THROUGH SHUCK-SPLIT/SHUCK-OFF WITH RATES REDUCED FROM THE MAX TO MIN OVER THIS PERIOD. PRIMARY USE IS AGAINST BACTERIAL SPOT.
Peach (Flowering)								
Peaches & Nectarines	0.26	2.28	3.15		2	2	4	FOLIAR
Peanut	0.35	0.7			1	4	6	FOLIAR
Pear	0.18	2.28	3.15		1	2	4	FOLIAR
Pear (Flowering)	0.18	1.4	2.1		1	2	4	FOLIAR
Peas	0.18	0.53	0.7		1	2	4	FOLIAR
Pecan	0.53	0.7	2.1		1	2	4	FOLIAR
Pecan, Live Oak								
Pentas (Egyptian Star)		0.7			1	2	4	FOLIAR
Peony		0.7			1	2	4	FOLIAR
Pepper	0.3	0.7	0.79		8	12		FOLIAR
Periwinkle		0.7			1	2	4	FOLIAR
Persimmon								
Philodendron		0.7			1	2	4	FOLIAR
Phlox		0.7			1	2	4	FOLIAR
Photinia (Red Tip, Red Leaf)		0.7			1	2	4	FOLIAR
Pine								
Pistachio		1.05	2.1		1	2	4	FOLIAR
Plant Containers & Tree Wound Dressing								
Plantain Lily		0.7			1	2	4	FOLIAR
Plastic Film and Containers								
Plums, Prunes	0.75	2.28	3.15		1	2	3	FOLIAR
Potato	0.26	0.7	1.05		2	2	6	FOLIAR
Pothos								
Powder Puff Plant		0.7			1	2	4	FOLIAR
Prune	3	4	6		1	1	2	FEB-MARCH
Pumpkins, Squash	0.35	0.7	0.79		4	8	12	FOLIAR
Purple Osier Willow								
Pyracantha		0.7			1	2	4	FOLIAR
Queen Palm		0.7			1	2	4	FOLIAR
Quince	0.4	0.26	0.77		1	2	4	FOLIAR
Radish	1.2	1.2	1.2		1	3	22	
Raspberries	0.26	0.7	1.05		1	2	4	FOLIAR
Rhododendrom		0.7			1	2	4	FOLIAR
Rice		0.7			1	2	4	FOLIAR
Rose		0.7			1	2	4	FOLIAR
Snapdragon								
Sour Cherries								
Spathe Flower								

Spinach	0.53	0.7	0.79	2	4	6	FOLIAR
Spirea							
Spruce							
Squash	0.39	1.13	2.31	1	1	2	
Squash (Summer)	0.58	0.58	0.58	1	1	1	
Strawberries	0.53	0.7	0.79	5	8	5	FOLIAR
Styrofoam Plant Containers							
Sugar Apple	2	3.15	4.73	2	4	10	FOLIAR
Sugar Beet	0.35	0.7	1.31	1	2	4	FOLIAR
Sycamore		0.7		1	2	4	FOLIAR
Table Beet, Beet Greens							
Tangerines	0.5	2	3.2	2	5	12	FIRST FLUSH TO LATE SUMMER
Tatarian Honeysuckle							
Tomato	0.53	1	1.05	8	12	12	FOLIAR
Tree Wound Dressing							
Tulip							
Turnip	0.22	0.56	0.56	1	4	12	
Turfgrass	0.26	0.53	0.79	1	2	4	FOLIAR
Umbrella Tree							
Verbena		0.7		1	2	4	FOLIAR
Viburnum		0.7		1	2	4	FOLIAR
Viola (Pansy, Violet)							
Walnut	1.4	2.1	3.15	1	4	8	FOLIAR
Washington Palm		0.7		1	2	4	FOLIAR
Watercress		0.53		1	2	4	FOLIAR
Watermelon	0.35	0.7	2	1	2	4	FOLIAR
Wheat, Barley, Oats	0.26	0.35	0.53	1	2	4	FOLIAR
Weeping Willow		0.7		1	2	4	FOLIAR
Yew							
Yucca (Adam's Needle)		0.7		1	2	4	FOLIAR
Zinnia							

COPPER EXPRESSED AS METALLIC FROM BASIC COPPER CHLORIDE(COPPER OXYCHLORIDE)

CROPS -ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Almonds	7.48	7.48	8.98	1	1	2	
Apples	2.24	2.24	2.24	1	1	1	
Apricots	5.98	8.98	11.97	1	1	1	
Blackberry	2.99	2.99	2.99	1	1	1	
Celery	1.5	1.5	1.5	1	2	5	
Cherries	11.22	11.22	11.22	1	1	1	
Grapes	0.08	3.9	14.96	1	2	5	
Lettuce	1.87	1.87	1.87	1	1	1	
Nectarine	5.98	7.48	7.48	2	2	2	
Olive	0.75	1.5	2.99	2	2	2	
Onions	1.5	1.5	1.5	1	2	3	
Outdoor Cut Flowers	0.04	0.04	0.04	1	1	1	
Peach	0.125		3	1	4	7	DORMANT THROUGH SHUCK-SPLIT/SHUCK-OFF WITH RATES REDUCED FROM THE MAX TO MIN OVER THIS PERIOD. PRIMARY USE IS AGAINST BACTERIAL SPOT.
Pear	0.35	0.94	22.44	1	1	6	
Plum	4.38	4.38	4.38	1	1	1	
Prunes							
Quince	2.99	2.99	2.99	1	1	1	

Raspberry	0.94	2.99	4.99	1	1	4
Squash	2.99	2.99	2.99	4	4	4
Squash (Summer)	1.5	1.5	1.5	1	1	1
Tomatoes	1.5	1.5	1.5	1	1	1
Walnut	3.89	4	7.48	1	2	4

COPPER EXPRESSED AS METALLIC FROM SALTS OF FATTY AND ROSIN ACIDS

or USE SITE	MIN LBS/A.I.	LBS/A.I.	MAX LBS/A.I.	APPLICATIONS	OF APPLICATIONS	APPLICATIONS	APPLICATION TIMING
Aglaonema	1.61	1.61	1.61				FOLIAR
Sharon)	1.61	1.61	1.61				FOLIAR
Andromeda, Japanese	1.61	1.61	1.61				FOLIAR
Apple	1.61	1.61	1.61				FOLIAR
Aralia	1.61	1.61	1.61				FOLIAR
Arborvitae	1.61	1.61	1.61				FOLIAR
Aster	1.61	1.61	1.61				FOLIAR
Avacado	6.45	6.45	6.45				FOLIAR
Azalea	1.61	1.61	1.61				FOLIAR
Bean (Green & Dry)	1.61	1.61	1.61				FOLIAR
Beech	1.61	1.61	1.61				FOLIAR
Beets (Red Table)	1.61	1.61	1.61				FOLIAR
Begonia	1.61	1.61	1.61				FOLIAR
Berries (Blackberries, Boysenberries, Loganberries, Raspberries)							
Blackberry, Boysenberry, Dewberry, Loganberry, Raspberry	2.15		3.23				FOLIAR
Bougainvillea	1.61	1.61	1.61				FOLIAR
Boxwood	1.61	1.61	1.61				FOLIAR
Broccoli, Brussels Sprout, Cabbage, Cauliflower	0.4	0.4	0.4				FOLIAR
Cabbage	0.81	0.81	0.81				FOLIAR
Camelias	1.61	1.61	1.61				FOLIAR
Camphor Tree	1.61	1.61	1.61				FOLIAR
Canna	1.61	1.61	1.61				FOLIAR
Carnation	1.61	1.61	1.61				FOLIAR
Carrots	1.61		2.42				FOLIAR
Cedar	1.61	1.61	1.61				FOLIAR
Celery	1.61	1.61	1.61				FOLIAR
Cherries (Sour)	1.61	1.61	1.61				FOLIAR
Chinese Tallow Tree	1.61	1.61	1.61				FOLIAR
Chrysanthemum	1.61	1.61	1.61				FOLIAR
Citrus	0.5	1	3.2	1	3	6	FOLIAR
Corn (Field)	1.61	1.61	1.61				FOLIAR
Cotoneaster	1.61	1.61	1.61				FOLIAR
Cranapple	1.61	1.61	1.61				FOLIAR

Cucurbits (Cantaloupe, Cucumber, Pumpkin, Muskmelon, Squash, Watermelon)	1.61	1.61	1.61				FOLIAR
Cypress	1.61	1.61	1.61				FOLIAR
Dahlia	1.61	1.61	1.61				FOLIAR
Delphinium	1.61	1.61	1.61				FOLIAR
Dianthus	1.61	1.61	1.61				FOLIAR
Dogwood	1.61	1.61	1.61				FOLIAR
Douglas Fir	1.61	1.61	1.61				FOLIAR
Dracaena	1.61	1.61	1.61				FOLIAR
Dumb Cane	1.61	1.61	1.61				FOLIAR
Dusty Miller	1.61	1.61	1.61				FOLIAR
Echinacea	1.61	1.61	1.61				FOLIAR
Elm, Chinese	1.61	1.61	1.61				FOLIAR
Euonymus	1.61	1.61	1.61				FOLIAR
Fern, Boston	1.61	1.61	1.61				FOLIAR
Fern, Holly	1.61	1.61	1.61				FOLIAR
Fig, Weeping	1.61	1.61	1.61				FOLIAR
Filbert (Ornamental)	1.61	1.61	1.61				FOLIAR
Gardenia	1.61	1.61	1.61				FOLIAR
Gladiola	1.61	1.61	1.61				FOLIAR
Golden Rain Tree	1.61	1.61	1.61				FOLIAR
Grape	0.81		2.42				FOLIAR
Grape Ivy	1.61	1.61	1.61				FOLIAR
Greenhouse Grown Cut Flowers or Greens	0.61	1.82	3.74	2	4	4	
Hawthorne	1.61	1.61	1.61				FOLIAR
Hibiscus	1.61	1.61	1.61				FOLIAR
Holly	1.61	1.61	1.61				FOLIAR
Honeylocust	1.61	1.61	1.61				FOLIAR
Hydrangea	1.61	1.61	1.61				FOLIAR
Impatiens	1.61	1.61	1.61				FOLIAR
Indian Hawthorne	1.61	1.61	1.61				FOLIAR
Iris	1.61	1.61	1.61				FOLIAR
Ivy (English, Algerian)	1.61	1.61	1.61				FOLIAR
Ixora, Magnolias, Palms	1.61	1.61	1.61				FOLIAR
Juniper	1.61	1.61	1.61				FOLIAR
Lantana	1.61	1.61	1.61				FOLIAR
Lettuce	0.81		1.61				FOLIAR
Leyland Cypress	1.61	1.61	1.61				FOLIAR
Lilac	1.61	1.61	1.61				FOLIAR
Lily, Easter	1.61	1.61	1.61				FOLIAR
Linden	1.61	1.61	1.61				FOLIAR
Loblolly Bay	1.61	1.61	1.61				FOLIAR
Loquat	1.61	1.61	1.61				FOLIAR
Magnolia	1.61	1.61	1.61				FOLIAR
Mandevilla	1.61	1.61	1.61				FOLIAR
Mangoes	6.45	6.45	6.45				FOLIAR

Maple	1.61	1.61	1.61				FOLIAR
Marigold	1.61	1.61	1.61				FOLIAR
Mountain-Ash	1.61	1.61	1.61				FOLIAR
Mulberry (Ornamental)	1.61	1.61	1.61				FOLIAR
Narcissus	1.61	1.61	1.61				FOLIAR
Nephtytis	1.61	1.61	1.61				FOLIAR
Oak	1.61	1.61	1.61				FOLIAR
Oak, Laurel	1.61	1.61	1.61				FOLIAR
Oleander	1.61	1.61	1.61				FOLIAR
Olive	6.45		9.68				FOLIAR
Onion, Garlic	1.61	1.61	1.61				FOLIAR
Onions	1.61	1.61	1.61				FOLIAR
Oregon Grapeholly	1.61	1.61	1.61				FOLIAR
Outdoor Cut Flowers	0.46	2.44	3.69	1	2	4	
Pachysandra	1.61	1.61	1.61				FOLIAR
Palm, Date	1.61	1.61	1.61				FOLIAR
Palm, European Fan	1.61	1.61	1.61				FOLIAR
Palm, Parlor	1.61	1.61	1.61				FOLIAR
Palm, Queen	1.61	1.61	1.61				FOLIAR
Palm, Washington	1.61	1.61	1.61				FOLIAR
Peach	0.031	0.062	0.075	2	5	8	STARTING POST-BLOOM (SHUCK-SPLIT) AND 7-14 DAYS UNTIL PREHARVEST TIME LIMITATION
Peach (Flowering)	1.61	1.61	1.61				FOLIAR
Peaches, Nectarines	0.13		9.68				FOLIAR
Peanuts	1.61		9.68				FOLIAR
Peas	1.61		2.15				FOLIAR
Pecan	1.61		2.69				FOLIAR
Pentas (Egyptian Star)	1.61	1.61	1.61				FOLIAR
Peony	1.61	1.61	1.61				FOLIAR
Pepper	1.61		2.42				FOLIAR
Periwinkle	1.61	1.61	1.61				FOLIAR
Philodendron	1.61	1.61	1.61				FOLIAR
Phlox	1.61	1.61	1.61				FOLIAR
Photinia (Red Tip)	1.61	1.61	1.61				FOLIAR
Pine	1.61	1.61	1.61				FOLIAR
Pistachio	1.61	1.61	1.61				FOLIAR
Plantain Lily	1.61	1.61	1.61				FOLIAR
Plum (Flowering)	1.61	1.61	1.61				FOLIAR
Poinsettia	1.61	1.61	1.61				FOLIAR
Potato	1.61	1.61	1.61				FOLIAR
Pothos	1.61	1.61	1.61				FOLIAR
Powder Puff Plant	1.61	1.61	1.61				FOLIAR
Pyracantha	1.61	1.61	1.61				FOLIAR
Raspberry	0.18	2.43	3.66	1	3	7	
Rhododendron	1.61	1.61	1.61				FOLIAR
Rose	1.61	1.61	1.61				FOLIAR
Snapdragon	1.61	1.61	1.61				FOLIAR
Spathe Flower	1.61	1.61	1.61				FOLIAR
Spinach	1.61		2.15				FOLIAR
Spirea	1.61	1.61	1.61				FOLIAR
Spruce	1.61	1.61	1.61				FOLIAR
Strawberries	1.61		2.15				FOLIAR
Sugar Beets	1.61	1.61	1.61				FOLIAR
Sycamore	1.61	1.61	1.61				FOLIAR
Tatarian Honeysuckle	1.61	1.61	1.61				FOLIAR

Tomato	1.61	1.61	1.61				FOLIAR
Tulip	1.61	1.61	1.61				FOLIAR
Umbrella Tree	1.61	1.61	1.61				FOLIAR
Verbena	1.61	1.61	1.61				FOLIAR
Viburnum	1.61	1.61	1.61				FOLIAR
Viola (Pansy, Violet)	1.61	1.61	1.61				FOLIAR
Walnut	10.76		10.76				FOLIAR
Willow	1.61	1.61	1.61				FOLIAR
Yew	1.61	1.61	1.61				FOLIAR
Yucca (Adams Needle)	1.61	1.61	1.61				FOLIAR
Zinnia	1.61	1.61	1.61				FOLIAR
COPPER EXPRESSED AS METALLIC FROM COPPER SULFATE PENTAHYDRATE							
CROPS - ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
ALGAE - Crop and non-crop irrigation conveyance systems, ditches, canals and laterals - Potamogeton pondweeds, leafy and sago	0.03		0.775	1	1	4	7-10 DAYS
ALGAE - Lakes, Potable water reservoirs, Ponds (golf, farm, fish), Fish hatcheries, Crop and non-crop irrigation conveyance systems, ditches, canals and laterals	0.2	0.675	1.35	1	1	4	7-10 DAYS
Algae (Control in Impounded Waters, Lakes, Ponds and Reservoirs)	1.35	2.7	2.7	1	1	4	7-10 DAYS
Algae (Control in Irrigation Systems / Slug Application Method)	1.35	2.7	2.7	1	1	4	7-10 DAYS
Algae (Control in Rice Fields)							
Algae Control in Irrigation	1.35	2.7	2.7	1	1	4	7-10 DAYS
Almond	9.9	9.9	9.9	1	1	1	
Apples	3.96	3.96	3.96	1	1	1	
Blueberries							

Bottom-attached algae (Chara and Nitella)	1.35	2.7	2.7	1	2	4	7-10 DAYS
Bulbs (Easter Lily, Tulip, Gladiolus)		2.5		15	25	35	7-10 DAYS
Caneberries							
Cherries	6.19	9.9	9.9	1	1	2	
Chlorophyceae (Green): Ankistrodesmus, Chara, Mitella, Scenedesmus	1.35	2.7	2.7	1	2	4	7-10 DAYS
Chlorophyceae (Green): Botryococcus, Cladophora, Coelastrum, Draparnaldia, Enteromorpha, Gloeocystis, Microspora, Tribonema, Zygnema	1.35	2.7	2.7	1	2	2	7-10 DAYS
Chlorophyceae (Green): Chlorella, Crucigenia, Desmidium, Golenkinia, Oocystis, Palmella, Pithophora, Staurastrum, Tetraedron	1.35	2.7	2.7	1	2	4	7-10 DAYS
Chlorophyceae (Green): Chlorella, Crucigenia, Desmidium, Golenkinia, Oocystis, Palmella, Pithophora, Staurastrum, Tetraedron	1.35	2.7	2.7	1	2	4	7-10 DAYS
Chlorophyceae (Green): Closterium, Hydrodictyon, Spirogyra, Ulothrix	1.35	2.7	2.7	1	2	4	7-10 DAYS
Citrus	0.1	0.2	0.3	1	3	6	10-21 DAYS
Commercial, Institutional, Municipal Use: Sewer Pumps and Force Mains							
Cyanophyceae (Blue- Green): Calothrix, Symploca	1.35	2.7	2.7	1	2	4	7-10 DAYS

Cyanophyceae (Blue-Green): Anabaena, Anacystis, Aphanizomenon, Gloeotrichia, Gomphosphaeria, Polycystis, Rivularia	0.27	0.5	1.35	1	4	8	7-10 DAYS
Cyanophyceae (Blue-Green): Cylindrospermum, Oscillatoris, Plectonema	0.27	0.5	1.35	1	4	8	7-10 DAYS
Cyanophyceae (Blue-Green): Nostoc, Phormidium	0.27	1.35	2.7	1	4	8	7-10 DAYS
Diatomaceae (Diatoms): Achanthes, Cymbella, Neidium	1.35	2.7	2.7	1	1	2	7-10 DAYS
Diatomaceae (Diatoms): Asterionella, Fragilaria, Melorias, Navicula	0.5	1.35	1.35	1	1	2	7-10 DAYS
Diatomaceae (Diatoms): Gomphonema, Nitzschia, Stephanodiscus, Synedra, Tabellaria	0.5	1.35	1.35	1	1	2	7-10 DAYS
Filamentous and Planktonic Algae	1.35	2.7	2.7	1	2	4	7-10 DAYS
Grapes	2.3	2.3	2.3	1	1	1	
Grapes (Dormant)							
Greenhouse Grown Cut Flowers or Greens	0.06	0.45	1.69	1	2	21	
Green peeled posts							
Household Sewers							
Irrigation/Potable Water Conveyance Systems	0.5	2.7	2.7	1	2	4	7-10 DAYS
Leafy and Sago Pond Weed							
Lemon	1.52	5.9	9.42	1	1	1	FALL
Lilies							
Nectarine	9.9	9.9	9.9	1	1	1	
Olives	4.95	19.8	24.75	1	1	2	
Orange	0.1	0.2	0.3	1	3	6	10-21 DAYS
Outdoor Cut Flowers	0.02	0.26	4.27	1	2.5	8	
Peach	9.9	9.9	12.38	1	1	1	
Plum							

Potable/Culinary Water Systems							
Potato Vine Kill							
Potatoes							
Protozoa (Flagellates): Ceratium, Cryptomonas, Euglena, Glendinium, Mallomonas	0.5	1.35	1.35	1	2	4	7-10 DAYS
Protozoa (Flagellates): Chlamydomonoas, Hawmatococcus, Peridinium	1.35	2.7	2.7	1	2	4	7-10 DAYS
Protozoa (Flagellates): Dinobryon, Synura, Uroglena, Volvox	0.5	1.35	1.35	1	2	4	7-10 DAYS
Protozoa (Flagellates): Eudorina, Pandorina	1.35	2.7	2.7	1	2	4	7-10 DAYS
Prune	0.51	4.95	39.6	2	1	2	
Rice	9.76	14.85	15.84	1	1	2	
Rice, Wild	7.43	14.85	14.85	1	1	3	
Root Growth (Control in Residential or Household Sewer Systems with Septic Tank)							
Root Growth (Control in Sewer Pumps and Force Mains)							
Root Growth (Control in Storm Drains)							
Root growth in commercial, industrial and municipal sewers							
Schistosome-Infected Fresh Water Snail	1.35	2.7	13.5	1	2	2	7-10 DAYS
Septic Tank and Leach Lines & Pipes							
Sewer Treatment - Root and Fungus Control (partial stoppage)							
Stone Fruit	9.9	9.9	9.9	1	1	1	
Storm Drains							
Tadpole Shrimp (Control in flooded rice fields - Domestic and Wild)		2.5					1-2 TIMES/YEAR IF PRESENT
Tangerine	9.74	9.82	9.9	1	1	1	
Walnuts	3.45	13.2	14.85	1	1	4	
Wood Treatment (green, peeled posts)							
COPPER EXPRESSED AS METALLIC FROM CUPROUS OXIDE							
CROPS - ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Alfalfa: Leaf spot	3.95	2.89	3.95	1	1	3	14 DAYS

Almonds	0.01	1.95	7.6	1	2	6	15 DAYS
Althaea (Rose of Sharon)							
Apples	0.38	4.9	6.21	1	1	3	6 DAYS
Apricots	0.12	4.5	10	1	1	2	22 DAYS
Aralia							
Arborvitae							
Atemoya				1	2	4	21-30 DAY INTERVAL
Avocados				1	6	10	21-30 DAY INTERVAL
Azalea							
Bananas				2	6	12	14-30 DAY INTERVAL
Beans, Peas, Lentils (succulent and dry)							
Beets, Sugarbeets							
Begonia							
Blackberries	1.13	2.26	2.26	1	2	3	
Blueberries	1	5.01	5.01	1	1	1	
Bougainvillea							
Bulbs (Tulip, Gladiolus)							
Camellia							
Camphor Tree							
Caneberries (blackberries, youngberries, loganberries, red & black raspberries)	1.25	1.5	3.34	1	1	1	
Canna							
Carambola				1	2	2	30 DAY INTERVAL
Carnation							
Carrots	1	0.89	1	1	1	2	32 DAYS
Celery							
Cherries	1.25	5.55	10.87	1	1	2	11 DAYS
Chinese Tallow Tree							
Chives							
Chrysanthemum							
Citrus	0.5	1	3.2	1	3	5	21-30 DAYS
Cocoa							
Coffee							
Cotoneaster							
Cranberries							
Crucifers [Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Greens (Collard, Mustard, Turnip)]	1.5	2.01	2.01	1	1	1	
Cucurbits (Cantaloupe, Cucumber, Honeydew, Muskmelon, Pumpkin, Squash, Watermelon)							
Currants, Gooseberries							
Dahlia							
Date plum							
Dianthus							
Dill							

Dogwood							
Douglas Fir							
Dusty miller							
Easter lily	1.5	1.87	2.25	15	25	35	7-10 DAYS
Echinacea							
Eggplant							
Elm "Drake"							
Euonymus							
European fan palm							
Filberts							
Frost Injury Protection							
Gardenia							
Geranium							
Ginseng							
Gladiolus							
Goldenrain tree							
Grapefruit	2.26	5.32	8.39	1	1	1	
Grapes	0.03	3.15	9.38	1	2	6	8 DAYS
Greenhouse and Shade House Crops: Citrus [Non-bearing nursery]							
Guava				2	4	8	21-30 DAY INTERVAL
Hibiscus							
Holly fern							
Hops							
Impatiens							
India Hawthorne							
Ivy (English, Algerian)							
Ixora							
Juniper (Eastern red cedar)							
Kiwi							
Lantana							
Lemon	4.51	4.51	4.51	1	1	1	
Lettuce	6.01	6.01	6.01	1	2	4	29 DAYS
Lilac							
Litchi				1	3	5	21-30 DAY INTERVAL
Live Oak							
Loblolly bay							
Loquat				1	2	3	21-30 DAY INTERVAL
Macadamia							
Magnolia (Saucer)							
Magnolia (Southern)							
Magnolia (Sweet bay)							
Mamey Sapote				1	3	4	21-30 DAY INTERVAL
Mandevillas							
Mangos				4	6	9	21-30 DAY INTERVAL
Marigold							
Mulberry Weeping							
Nectarine	2.82	5.64	6.77	1	1	2	
Oak, laurel							
Orange	0.5	1	3.2	1	3	6	21-30 DAY INTERVAL
Oleander							
Olives	3.75	7.5	7.5	1	1	3	5 DAYS
Onions, Chives	1	1.63	1.63	1	2	4	30 DAYS

Pachysandra							
Pansy							
Papaya				2	6	12	21-30 DAY INTERVAL
Parsley							
Passion Fruit				1	2	3	21-30 DAY INTERVAL
Peaches, Nectarines	0.05	11.89	11.89	1	3	5	12 DAYS
Peanuts							
Pear (Flowering)							
Pears, Quince	0.29	5.01	5.42	1	1	2	33 DAYS
Pecans							
Pentas (Egyptian star)							
Peony							
Peppers							
Periwinkle							
Philodendron							
Phlox							
Photinia							
Pines							
Pistachio							
Plantain lily							
Plums, Prunes	0.31	9.02	11.58	1	1	2	14 DAYS
Potatoes							
Powder puff plant							
Pyracantha							
Queen palm							
Raspberry	1.13	1.13	2.26	1	1	1	
Rhododendron							
Rose							
Snail repellent for tree and vine crops							
Spinach							
Stone Fruit	6.71	6.71	6.71	1	1	1	
Strawberries	1.5	1.5	1.5	1	1	2	23 DAYS
Sugar Apple				2	4	6	21-30 DAY INTERVAL
Sycamore							
Tangelo	2.26	2.82	4.51	2	2	2	
Tangerine	0.5	1	3.2	1	3	6	21-30 DAY INTERVAL
Tobacco							
Tomatoes	0.15	1.5	1.88	1	2	3	18 DAYS
Turfgrass							
Verbena							
Virburnum							
Walnuts	0.03	10.84	10.84	1	2	3	14 DAYS
Washingtonia Palm							
Weeping willow							
Wheat, Oats, Barley							
Yucca (Adam's Needle)							
COPPER EXPRESSED AS METALLIC FROM MANCOZEB BASIC COPPER SULFATE COMBINATION PRODUCT							
CROPS -ALL USES or USE SITE	MIN LBS/A.I.	MOST COMMON LBS/A.I.	MAX LBS/A.I.	MIN NO. OF APPLICATIONS	MOST COMMON NO. OF APPLICATIONS	MAX NO. OF APPLICATIONS	APPLICATION TIMING
Apple							
Arborvitae							
Ash							
Azalea							
Banana	0.6	0.6	0.87	2	6	12	14-21 DAY INTERVAL
Barberry							

Barley,Oats, Wheat							
Beech							
Begonia							
Birch							
Bittersweet							
Camellia							
Carnation							
Catalpa							
Cherry-Laurel							
Chrysanthemum							
Cotoneaster							
Cranberry							
Cucumber							
Currant, Alpine							
Dahlia							
Dogwood							
Dollar Spot							
Easter Lily				15	25	35	7-10 DAYS
Elm							
Euonymus							
Fir							
Forsythia							
Fusarium Snow Mold							
Geranium							
Gladiolus							
Grape							
Helminthosporium Melting-out Rusts (Leaf, Stem, Stripe)							
Hickory							
Holly							
Honeysuckle							
Horse-Chestnut, Buckeye							
Hydrangea							
Indian Hawthorne							
Juniper (Eastern Red Cedar)							
Lilac							
Linden, Basswood							
Magnolia							
Maple, Boxelder							
Marigold							
Melons: Cantaloupe, Casaba, Crenshaw, Honeydew, Muskmelon, Watermelon							
Mineola, Citrus (non- bearing)							
Mountain-Ash							
Mulberry							
Oak, Laurel							
Onion (dry bulb)							
Pachysandra							
Pansy							
Papaya	0.45	0.6	0.75	2	6	12	21-30 DAY INTERVAL
Peanut							
Pear							

Peony							
Photinia							
Pine							
Poplar, Aspen, Cottonwood							
Potato							
Privet							
Pyracantha							
Pythium Blight							
Redbud							
Rhizoctonia Brown Patch							
Rhododendron, Azalea							
Rice (seed)							
Rose							
Russian-Olive							
Squash (summer squash)							
Stone Fruit (Ornamental) Almond, Apricot, Cherry, Nectarine, Peach, Plum							
Sugarbeet							
Sumac							
Sycamore, Planetree							
Tomato							
Tulip							
Viburnum							
Walnut, Butternut, Pecan							
Wheat, Barley (seed)							
Willow							
Witchhazel							
Zinnia							

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