

Reg # 51036-24

PM-22

File

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United States Environmental Protection Agency  
Washington, D.C. 20460

OCT 1 1993

Office of  
Prevention, Pesticides and  
Toxic Substances

Morris Gaskins  
MICRO-FLO CO.  
BOX 5948  
LAKE LAND FL 33807

Subject: Label Amendment Submission of 05/27/93  
in Compliance with WPS Labeling Requirements  
EPA Reg No. 51036-24  
MICRO FLO CO. BASIC COPPER 53

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is accepted subject to the comments listed below.

Based on your certification, the Agency has accepted only those changes to your labeling which are necessary to comply with PR Notices 93-7 and 93-11, which reflect the WPS labeling requirements of 40 CFR part 156, subpart K. Any other labeling changes submitted in connection with this amendment application and not directly related to compliance with PR Notice 93-7 or 93-11 have neither been reviewed nor accepted by the Agency. If you wish to make any such changes, you must submit a separate amendment application proposing them. If your product registration is currently suspended, acceptance of this labeling amendment does not affect the suspension in any way.

A copy of your proposed labeling stamped "Accepted with comments" is attached. Make any required changes described in the attached and send three copies of final labeling as soon as it is available to:

Document Processing Desk (FIN-LABEL)

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Office of Pesticide Programs (H-7504C)  
U.S. Environmental Protection Agency  
401 M Street SW  
Washington, DC 20460-0001

Hand or courier deliveries of final labels may be made to:

Document Processing Desk (FIN-LABEL)  
Room 266A Crystal Mall 2  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Please correct the typographical errors circled on the draft before printing final labeling.

In your final labeling the "Agricultural Use Requirements" text must be contained in a clearly separate box. This box may be set apart by a line, by another graphical device, by a different color background, or in any other way that clearly distinguishes it from surrounding text.

Sincerely,

*James Tompkins*  
James Tompkins, Deputy Chief  
Registration Support Branch  
Registration Division (75154)

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MICRO-FLO CO.  
MICRO FLO CO. BASIC COPPER 53  
51036-24 05/27/93  
Original Submission

User Safety Recommendations must either be placed in a box or printed on the label in a contrasting color from surrounding text.

The Agricultural Use Requirements section must either be placed in a box or printed on the label in a contrasting color from the surrounding text.

Your label contains redundant WPS phrases that should be eliminated. Please see the attached comments.

Admin: 51036-24

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**Analyst comments:**

Under Statement of Practical Treatment, "Remove contaminated clothes and shoes and immediately wash skin with soap and plenty of water" is redundant and should be deleted. Also on current label the same statement was not red-lined and on page 2 the statement regarding goggles, face shield or safety glasses should have been red-lined.

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Draft labeling for WPS language in response to FR 93-7

# BASIC COPPER "53"

## ACTIVE INGREDIENT:

Copper as Metallic ..... 53.0%

(in the form of Basic Copper Sulfate)

INERT INGREDIENTS: ..... 47.0%

TOTAL..... 100.0%

KEEP OUT OF REACH OF CHILDREN

## WARNING AVISO

Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

## STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. Drink one or two glasses of water and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.

IF ON SKIN: Remove contaminated clothes and shoes and immediately wash skin with soap and plenty of water. If irritation develops, see a physician.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration preferably mouth-to-mouth. Get medical attention.

See Below For Additional Precautionary Statements

EPA Reg. No. 51036-24

EPA Est. No. 51036-GA-1

Manufactured By  
MICRO FLO COMPANY  
P.O. BOX 5948  
LAKELAND, FLORIDA 33807

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

OCT 1 1993

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

51036-24

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**PRECAUTIONARY STATEMENTS**  
**Hazards To Humans And Domestic Animals**

**WARNING**

Harmful if swallowed, inhaled, or absorbed through the skin. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Causes substantial but temporary eye injury. May cause skin sensitization in certain individuals.

**PERSONAL PROTECTIVE EQUIPMENT**

Applicators and other handlers must wear:

1. Coveralls over short-sleeved shirt and short pants
2. Waterproof gloves
3. Chemical-resistant footwear plus socks
4. Protective eyewear
5. Chemical-resistant headgear for overhead exposure
6. Chemical-resistant apron when cleaning equipment, mixing, or loading.
7. Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C)

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

**USER SAFETY RECOMENDATIONS**

Users should:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing
3. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing

**Engineering Control:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**ENVIRONMENTAL HAZARDS**

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

**DIRECTIONS FOR USE**

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

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

**AGRICULTURAL USE REQUIREMENTS**

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

1. Coveralls over short-sleeved shirt and short pants
2. Waterproof gloves
3. Chemical-resistant footwear plus socks

**4. Protective eyewear**

**5. Chemical-resistant headgear for overhead exposure**

**DIRECTIONS FOR USE**

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

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

**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:** Completely empty bag by shaking and tapping side and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of bags in a sanitary landfill or by incineration if allowed by State and local authorities.

Use of this material in a manner other than in accordance with this label may cause serious plant, crop or personal injury, excessive residues, unsatisfactory control or other unintended consequences.

**CHEMIGATION**

**GENERAL CHEMIGATION INSTRUCTIONS**

Apply this product only through one or more of the following types of systems; sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation system(s). 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 nonuniform 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.

**CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS**

Public water system means a system for the provision of the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.



Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The 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 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.

#### SPRINKLER CHEMIGATION

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contaminated 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 contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to

automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

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

To mix Basic Copper 53 for application, add it to the pesticide supply tank containing sufficient water to maintain a pumpable fluid for your equipment. Continuous agitation is required in the pesticide supply tank until it is completely empty.

If other known compatible pesticides or products are tank-mixed, add this product and other wettable powders first to the water, followed by flowables, liquids, and last emulsifiable products. This product can be mixed with other fungicides or insecticides. Basic Copper 53 may be used alone or in combination with other fungicides and insecticides with cautions and limitations stated on the label of product used in the tank mixtures. Tank mixes must observe the more restricted uses of the directions. In lateral move, end tow, side (wheel) roll, solid set, or hand move systems inject sufficient time for all of the minutes to each set allowing sufficient time for all of the required pesticide to be applied by all sprinkler heads. In continuously moving systems, inject this product-water, mixture continuously applying the labeled rate per acre for that crop. In continuous moving systems, best disease control results when water applications are low, but do not exceed one inch per acre.

#### DIRECTIONS FOR DILUTION AND USE

**Mixing Sprays:** Fill the spray tank about 1/3 full of water and with agitator running, add the required amount of Basic Copper 53. Keep agitator running while adding remaining water and any other products to the spray tank. Continue agitation until spraying is finished and tank has been emptied. When mixed with other products proven or known to be compatible, generally add wettable powders first, followed in order by flowables, followed by emulsifiable concentrates.

**Applying Spray Mixture:** On most crops, sprays can be applied with conventional dilute sprays in serial application unless specifically prohibited on the label. Recommended use rates are

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generally stated in lbs of Basic Copper 53 per acre sprayed. When using each type of sprayer follow that equipment manufacturer's recommendation, or that of the State Extension Service for the volume of spray water per acre on each crop. Mix the recommended lbs of Basic Copper 53 for each crop in sufficient spray water for thorough coverage of the crop to be sprayed. The following spray volumes are general suggestions for use.

For Conventional dilute spray: Apply spray to point of spray run off. On vegetable and field crops this is usually 100 or more gallons per acre and 250 to about 1000 gallons per acre for fruits and nuts depending on tree type, size and foliage.

For concentrate spray: On vegetable and field crops, use 5 or more gallons spray per acre, and on fruits and nut trees use 25 or more gallons per acre.

For aerial spray: Use 3 to 15 gallons per acre. Note: Be sure aerial application spray concentration will not harm foliage.

Basic Copper 53 can be applied up to day of harvest.

#### FRUITS AND NUT CROPS

##### Almonds:

Shot hole - Apply 12 to 20 lbs. per acre. Apply higher rate as dormant spray (in California) and repeat for Shot hole as well as Brown rot suppression using lower rates; apply at pink bud to popcorn stages, again at full bloom and at petal fall if trees are not in leaf.

Spraying tender foliage may cause leaf injury.

##### Apples:

Anthraxnose - Use 3 to 4 lbs. per acre. For red varieties apply to foliage before or after harvest. For yellow varieties apply to foliage after harvest once every 2 to 3 years as necessary.

Brooks Spot - Use 1 lb. plus 2 lbs. hydrated lime per 100 gallons. Apply in late cover sprays.

Bitter Rot, Black Spot, Blotch, Powdery Mildew - Use 1/2 to 1 1/2 lbs. plus 3 to 5 lbs. hydrated lime per 100 gallons. Begin at petal fall and repeat through fourth cover spray.

Bulls-eye Rot - Use 4 lbs. with suitable spray oil per 100 gallons of water. Apply after harvest.

Fire Blight - 1/3 to 1/2 lbs. per 100 gallons; 2 lbs. per acre in concentrate sprays. Begin at 10 percent bloom. Repeat at 5-day intervals until late bloom is over.

Scab - 1 to 1 1/4 lb. per 100 gallons. Apply at delayed dormant stage.

Sooty Blotch - 1 1/4 lb. plus 2 1/2 lbs. hydrated lime per 100 gallons.

NOTE: Apply in late cover sprays. Under conditions where copper injury is likely to occur, add additional lime.

**LIMITS: 32 lbs. per acre.**

**Apricots:**

Shot hole (stigmata or Coryneum, blight) - Apply 14 to 20 lbs. per acre. Apply as dormant spray (in California) for shot hole. For Brown rot suppression in buds apply lower rate through swelling buds and popcorn stage. Do not spray trees in leaf. When bud blight is a problem, apply the maximum rate shown above after most of leaves have fallen in the fall, usually in November and December, but ahead of fall rains. Spray may injure tender foliage.

**Avocados:**

Anthracoze, blotch and Scab - Apply 12 to 20 lbs. per acre depending on tree size. Begin treatment when flower buds open and repeat at 4 week intervals. Do not apply later than 140 days after bloom. In Florida, addition of spreader-sticker such as "St-Film 17 at its recommended rate may improve disease control.

**Berries (Blackberries, Boysenberries, Dewberries, Loganberries, Raspberries):**

Anthracoze - Apply 4 to 5 lbs. per acre. Begin spray when leaf buds begin to open. Repeat when flower buds show white and continue at 10 to 14 day intervals.

Leaf and Cane Spot and Yellow rust - Spring sprays, use 4 to 5 lbs per acre and apply when leaf buds begin to open and repeat when flower buds show white. Post-harvest spray after pruning, but before fall rains begin to fall, use 12 to 15 lbs per acre combined with a spreader-sticker.

**Cherries (all):**

To aid in control of Bacterial gummosis and canker (*Pseudomonas*) and Coryneum blight - At late leaf-fall, apply 13 to 16 lbs per acre. In dilute sprays, mix 3/4 lbs. per 100 gallons water and apply a maximum of 500 gallons spray per acre.

Dormant spray for Coryneum blight - apply 12 to 16 lbs. (Northwestern states use 20-25 lbs.) per acre, or use a 5 lbs. per 100 gallons dilute spray up to 500 gallons per acre.

**Cherries (Sour only):**

For leaf fall and dormant sprays also see cherries (all) above: For Brown rot and Blossom Blight suppression (except Great Lakes states) - apply 12 to 16 lbs. per acre. Apply in red bud, popcorn, and late bloom stages.

In Great Lakes area, for suppression of Bacterial canker (*Pseudomonas syringae* PV. mors. prunorum) and spring applications for Blossom blight, Leaf and Fruit Spots - Use 3 lbs. per acre, or 1 lb. per 100 gallons dilute spray. Begin sprays at bud burst stage and apply at weekly intervals to late May. Later sprays may be phytotoxic causing some leaf defoliation. Basic Copper 53 may be tank-mixed with other effective fungicides for leaf spot and brown rot control. For leaf spot application in other than Great

Lakes states, apply 10 to 15 lbs. per acre plus 10 to 16 lbs. of hydrated lime; apply using lower rate at petal fall. Make two post-harvest spray using higher rates. Do not apply non-dormant sprays to sweet cherries or the English Morelo variety as severe injury may result.

**Citrus:**

For Melanose, Scab, Greasy Spot, Alternaria, Brown Spot, and Pink pitting of Grapefruit - In Florida use 6 to 8 lbs. per 500 gallons by dilute spray or 10 to 15 lbs. per acre by aerial or concentrated sprays, but not in less than 10 gallons spray per acre. In Texas apply 5 to 10 lbs. per acre for these diseases.

For scab suppression, make two applications; one just before trees begin to flush and repeat at 2/3 petal fall.

For Melanose control, make application 1 to 3 weeks after petal fall. Repeat 2-4 weeks later if necessary.

For Greasy spot and Pink Pitting make a summer spray about July 15. For Alternaria brown spot on Dancy tangerine and other citrus, apply 7 to 15 lbs. per 500 gallons water in a dilute spray. Make first application in April and repeat two or three times at monthly intervals as needed. A spreader-sticker may be added.

For Brown rot use 1-3 lbs. per 100 gallons (10 lbs. per 500 fallons in Florida) plus a spreader-sticker. Apply at first indication of ruin or first appearance of Brown rot. Repeat as needed to maintain protection during wet weather.

For Red alga use 7.5 lbs. per 500 gallons water as a dilute spray. Apply in the early summer and repeat in late summer.

For Bacterial blast (*Pseudomonas*, northern California) - Mix 10 to 20 lbs. per 500 gallons water and spray entire tree in October-November before the first rains.

Do not apply to Mandarins until after fruit has been picked.

**Citrus:**

Bacterial canker (except California) - For aid in suppressing or controlling bacterial canker on citrus, spray expanding foliage and young fruit less than 3 months old. On bearing trees, spray for melanose control 1 to 3 weeks after petal fall and repeat again with 2 more sprays at monthly intervals., On non-bearing trees, including greenhouse, nurseries, and young transplants, spray 7.5 lbs. Basic Copper 53 in 500 gallons spraying o point of run-off applied monthly, or as needed, to keep new foliage protected. Spray bearing trees with Basic Copper 53 for melanose with 7.5 lbs. Basic Copper 53 per 500 gallons water during the early spring flush. If bearing trees are not routinely sprayed for melanose but bacterial canker is a threat, follow the melanose spray program with the two monthly repeat sprays described above.

**NOTE:** Basic Copper 53 is compatible with oil sprays used on citrus. The use of copper and oil combinations should be avoided after the fruit has attained a size of 3/4 inch in diameter and when the temperature is excessively high.

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**Currants, Gooseberries:**

**Anthracnose, Leaf Spot** - Apply 6 lbs. per 100 gallons. Make 3 applications; full bloom, 2 weeks later, and after harvest.

**Filbert:**

**Bacterial Blight** - Mix 6 lbs. per 100 gallons water as a dilute spray and apply post-harvest before first heavy rain. If heavy fall rains occur, repeat spray after three-quarters of leaves have dropped.

**Grapes:**

**Anthracnose, Downy Mildew and suppression of Black rot** - Mix 2 lbs. per 100 gallons as a dilute spray or use 4 to 5 lbs. per acre as a concentrate spray. Make first application when new growth is 1/2 inch long and repeat at 10 to 14 day intervals as needed. Some vinifera may be sensitive to copper sprays. Check with your State Extension Service.

**Mangos:**

**Anthracnose (except California)** - Apply 12 to 15 lbs. per acre. Begin spray treatment when panicles are about 2 inches long. Repeat weekly until fruit set and then continue sprays monthly through September for a total of 5 to 12 applications, depending upon area.

**Olives:**

**Leaf spot (Peacock, Cyclonium)** - Use 5 to 6 lbs. per 100 gallons; apply in the fall, usually in October or November. In concentrate sprays, apply 15-25 lbs. per acre in not less than 40 gallons of water.

**Papaya:**

**Anthracnose (except California)** - Mix 2 lbs. per 100 gallons. Begin treatment before rains when disease is expected. Repeat at 10 to 14 day intervals during periods of heavy rainfall. Addition of a spreader sticker is desirable.

**Peaches and Nectarines:**

**Bacterial diseases (Peaches), Leaf curl, Shot hole (Peach blight, coryneum blight), suppression of Brown rot, blossom and twig blight** - 16 to 25 lbs. per acre applied as a dilute spray of 400 to 500 gallons per acre (4-5 lbs./100 gals).

For Bacterial diseases (Peaches), Leaf curl and Shot hole, apply as a dormant spray.

For Brown rot suppression and Shot hole apply before bud swell and again in full pink bud to popcorn stage but before leaves emerge.

Note: To control Leaf curl, application must be made before the foliage buds swell.

For Blight and Leaf curl control, 15 to 20 gallons of water per acre may be applied by aircraft during dormant period.

To aid in control of Peach Bacterial diseases apply 3 lbs. per 100 gallons water during leaf fall.

**Pears:**

**Fireblight** - Use 1/2 lb per 100 gallons of water, apply 400 gallons per acre to give 1 lb of copper per acre. Apply at 10% bloom and repeat at 5 to 7 day intervals during bloom. Do not use on D'Anjou, Comice, or Seckel varieties.

**Plums and Prunes:**

**Black knot, Shot hole, suppression of Brown rot** - Mix 4 to 5 lbs. plus sticker per 100 gallons water for dilute spray or use 16-25 lbs. per acre.

For Shot hole, apply as dormant spray before heavy fall rains begin.

For suppression of Brown rot apply at early green bud and full bloom stages.

For Black knot, mix 2 to 3 lbs. per 100 gallons water plus 8 to 10 lbs. hydrated lime and apply as a dilute spray at green tip stage, shuck shed and in two cover sprays if needed.

Aerial sprays to control Shot hole, apply 16 to 20 lbs. per acre in 20 gallons water during dormant season before buds swell. Overspraying with this concentration may injure the tender foliage of some Japanese plums.

**Walnuts:**

**Bacterial blight** - Use 4 to 5 lbs. per 100 gallons as a dilute spray or use 12 to 25 lbs. per acre. Apply in early prebloom (1% pistillate, no catkin blooms showing) and the second when 10 to 20% pistillate (not catkins) blooms are showing. Repeat applications 3 to 4 times as needed.

**Strawberries:**

**Downy mildew, Leaf spot** - Use 2 to 3 lbs. per 100 gallons water. Apply after leaves form and repeat at 10 to 14 day intervals.

**Vegetable and Field Crops****Mixing Instructions:**

Mix recommended amounts (one acre basis) of Basic Copper 53 in sufficient water for good coverage. With dilute ground sprayer, generally apply 100 to 150 gallons per acre. With concentrate sprayers, generally apply 20 to 50 gallons per acre. With aerial sprayers, generally apply 3 to 10 gallons per acre. Consult the sprayer equipment manufacturer's recommended spray volumes per acre.

(Note: Be certain aerial spray concentration will not harm foliage).

**Beans (green and dry):**

**Angular leaf spot, Anthracnose, Bacterial blight, Downy and Powdery Mildew** - Use 2 to 4 lbs. per acre. Begin spraying when plants are 5 inches tall or when disease first appears. Repeat at 5 to 10 day intervals as needed.

**Beets:**

Downy mildew, Leaf blights, and Leaf spots - Use 2 to 4 lbs. per acre. Apply when disease first appears and repeat at 7 to 10 day intervals as needed.

**Sugar Beets:**

Cercospora leaf spot, Downy mildew - Use 2 to 4 lbs. per acre. Begin when disease first appears and repeat at 7 to 10 day intervals as needed.

**Broccoli, Brussels Sprout, Cabbage, Cauliflower:**

Downy mildew, Leaf spots - Use 1 to 3 lbs. per acre. Begin application when disease is expected and repeat at 7 to 10 day intervals as needed.

**Carrots:**

Downy mildew, Cercospora (early) and Alternaria (late) blights - Use 2 to 4 lbs. per acre. Begin when disease first appears and repeat at 7 to 10 day intervals as needed.

**Celery:**

Bacterial blight, Early and Late Blight - Use 3 to 4 lbs. per acre. Apply in plant bed or field when plants are 6 inches high or when disease first appears. Repeat at 5 to 14 day intervals as needed. May be tank-mixed with other fungicides approved for use on celery if compatible for broad spectrum disease control.

Cucurbits (Cataloupes, Cucumbers, Melons, Pumpkins, Squash): Angular leaf spot, Anthracnose, Alternaria leaf spot, Bacterial wilt, Downy and Powdery mildews, Gummy stem blight, Leaf spot, Scab - Use 2 lbs. per acre. Begin full coverage foliar applications when plants begin to vine or when disease is first expected, and repeat every 5 to 10 days as needed. Tank mixing with other fungicides approved for use on cucurbits, if compatible for broad spectrum disease control, may enhance disease control.

Since the disease is likely to be more serious with high plant populations (40,000 plants or more per acre) spray high plant density every 3 to 4 days to protect fruit at all stages of development.

**Note:** A ground application of 4 lbs. per acre to the soil after planting and before emergence may help decrease infections for Angular leaf spot, anthracnose, and Alternaria leaf spot. After emergence, follow above foliar application program.

**Eggplant:**

Alternaria blight, Anthracnose, Phomopsis - Use 3 to 4 lbs. per acre. Make applications to plants in beds or after planted onto the field before disease appears. Repeat at 7 to 10 day intervals as needed.



**Endive, Escarole:**

**Downy Mildew** - Apply 1 to 3 lbs per acre. Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease.

**Lettuce:**

**Downy Mildew** - Apply 1 to 3 lbs. per acre. Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease.

**Onion:**

**Purple blotch and Downy mildew** - Use 3 to 4 lbs. per acre. Begin spray when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals as needed. Addition of a spreader-sticker may be desirable.

**Peanuts:**

**Early and late leaf spot (Cercospora and Cercosporidium)** - Use 2 to 3 lbs. per acre. Repeat at 10 to 14 day intervals as needed.

**Note:** The addition of 2 lbs. wettable, flowable, or WDG sulfur in a tank-mix may enhance leaf spot control. May be tank-mixed with other fungicides approved for use on peanuts if compatible.

**Peppers:**

**Anthrachnose, Bacterial spot, Early and Late blights, Cercospora leaf spot (Frogeye spot) Downy Mildew** - Use 3 to 4 lbs. per acre. Start sprays in seedbed or field before disease first appears and usually right after transplanting. Repeat every 7 to 10 days in field as needed and especially during fruiting stages.

**Potatoes:**

**Early and Late blight** - Use 3 to 6 lbs. per acre. Begin before disease appears and repeat every 7 to 10 days as needed. Last application should be made with the vine kill spray.

**Spinach:**

**Anthrachnose, Cercospora leaf spot, Downy mildew, White rust** - Use 2 to 4 lbs. per acre. Begin when disease first appears, repeat at 7 to 10 day intervals as needed.

**Tomatoes:**

**Anthrachnose, Bacterial spot and speck, Bacterial canker, Early and Late blight, Leaf mold, Nailhead rust, Septoria, and Stemphylium leaf spot** - Use 2 to 4 lbs. per acre. Begin making applications in seedbed or in the field before disease appears. Repeat at 7 to 10 day intervals as needed.

**Note:** A tank-mix of Basic Copper 53 with Dithane M-45, Maneb, or Manzate 200 used at labeled rate improves Bacterial spot and speck control as well as a broad range of tomato diseases. Observe all precautions and label limitations of all products used in mixtures.

For Bacterial speck control use 2 lbs. Basic Copper 53 per acre tank-mixed with label rates of, Dithane M-45 or Manzate 200. Addition of chlorothanil control target leaf spot and may enhance control of other diseases.

**Oak trees:**

Ball moss and Spanish moss - Mix 6 lbs. in 100 gallons of water. Apply in spring after heavy rain. Thoroughly wet tree and moss, applying about 1.5 gallons per foot of tree height.

**CONDITIONS OF SALE**

All statements concerning the use of this product apply only when used as directed.

THE MANUFACTURER MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, CONCERNING THIS PRODUCT OR ITS USE, WHICH EXTEND BEYOND THE DESCRIPTION ON THE LABEL.

Read all directions carefully.