

PM 22 5905-491

Apr 10 1992

Ms. Judy Oldham
Manager, Registration Services
Helena Chemical Company
6075 Poplar Avenue, Suite 500
Memphis, Tennessee 38119

Dear Ms. Oldham:

Subject: 3 Lb. Copper Flowable Fungicide
EPA Registration No. 5905-491
Corrected Labeling
Your Letter Dated 3/12/92.

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. Five copies of the finished printed labeling must be submitted prior to releasing the product for shipment.

Under "RECOMMENDATIONS", "GRAPES", in the parenthetical statement, correct the spelling of "severe".

Sincerely Yours,

Cynthia Giles-Parker
Cynthia Giles-Parker
Product Manager (22)
Fungicide-Herbicide Branch
Registration Division (M7505C)

Enclosure

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CONCURRENCES							
SYMBOL	H/20/12						
SURNAME	C. L. L. L.						
DATE	3/23/92						

299

3 LB. COPPER FLOWABLE FUNGICIDE

ACTIVE INGREDIENTS:

Copper hydroxide 37.5%

INERT INGREDIENTS: 62.5%

TOTAL 100.0%

(Metallic copper equivalent 24.4%)

This product contains three (3) pounds of metallic copper per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

CAUSES IRREVERSIBLE EYE DAMAGE. In case of contact with the eyes wash with large amounts of water and get medical attention immediately.

See Inside Booklet for Additional Precautionary Statements and Statement of Practical Treatment.

PRECAUCION AL USARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado completamente.

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EPA REG. NO. 5905-491

NET CONTENTS:

EPA EST. NO.

ACCEPTED
with COMMENTS
In EPA Letter 10/1/82

MANUFACTURED BY
HELENA CHEMICAL COMPANY
MEMPHIS, TN 38119

10/1/82
The National Insecticide
Association has reviewed this
label, for the purpose of
being used under EPA Reg. 169.
5905-491

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Corrosive. Causes irreversible eye damage. Harmful if swallowed, absorbed through the skin, or inhaled. Do not get in eyes, on skin, or on clothing. May cause skin sensitization in certain individuals. Wear goggles, face shield or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES - Wash with large amounts of water and get medical attention immediately.

IF SWALLOWED - Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol.

Note to Physician - Probably mucosal damage may contraindicate use of gastric lavage.

IF INHALED - Remove victim to fresh air. Get medical attention.

IF ON SKIN - Wash thoroughly with soap and water. Get medical attention if irritation persists.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water. Drift and runoff from treated area may be hazardous to fish and aquatic organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters.

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DIRECTIONS FOR USE

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

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

Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. (Indicate specific oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time field must be vacated and appropriate actions to take in case of accidental exposure.) When oral warnings are given, warnings shall be given in a language customarily understood by workers.

Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: 'DANGER: Area treated with cupric hydroxide on (date of application). Do not enter without appropriate protective clothing until sprays have dried. Consult the STATEMENT OF PRACTICAL TREATMENT portion of this label in case of accidental exposure.

CHEMIGATION & PROHIBITION: Do not apply this product through any type of irrigation system.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Keep in a cool place. Do not store at temperatures below 32° F. Open dumping is prohibited. Do not reuse empty container.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities by burning. If burned, stay out of smoke.

GENERAL INSTRUCTIONS

Use **3 LB. COPPER FLOWABLE** as noted below. **3 LB. COPPER FLOWABLE** is adaptable to spraying from all types of spray equipment. Depending on the equipment used and the specific crop, the volume applied per acre will differ. For dilute, high volume sprays; use from 25 to 100 gallons of water per acre (GPA) for most vegetable crops, 400 to 800 GPA for fruit and nut crops. For aerial spraying, 3 to 15 GPA are commonly used. No additional surfactants are needed. Add **3 LB. COPPER FLOWABLE** slowly to spray tank partially filled with water. Spreader-stickers, insecticides, nutrients, etc. should be added last. **3 LB. COPPER FLOWABLE** is compatible with commercially formulated spreader-stickers, oils and such insecticides as Carbaryl and other fungicides. Observe all cautions and limitations on label of all products used in mixtures.

The following specific instructions are based on general applications. The recommendations of the State Agricultural Extension Services should be closely followed as to timing, frequency, and number of sprays per season. When a range of doses are given for the use site, use the low dose when conditions are not favorable for disease development and use the high dose when conditions are favorable for disease development. Consult your State Agricultural Extension Service for guidance in determining what conditions favor diseases for the particular use site.

RECOMMENDATIONS

ALFALFA, Cercospora & Leptosphaerulina Leaf Spots - Apply at 2-2/3 pints per acre 10-14 days before each harvest or earlier if disease threatens. Apply with ground or aerial equipment. Spray injury may occur with sensitive varieties such as Lahontan.

APPLE, Anthracnose, European Canker, Pseudomonas Syringae - Apply before fall rains at 4 to 5-1/2 pints per 100 gallons (300-400 GPA). Use on yellow varieties may cause discoloration. To

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avoid, pick before spraying. **Fireblight** - Apply at 2-2/3 to 5-1/2 pints/100 gallons of water as a full cover spray. Make application between silver-tip and green-tip. **ATTENTION:** Phytotoxicity may occur from late application. (Discontinue use when green-tip is 1/2 inch.) **Crown or Collar Rot (Phytophthora cactorum)** - Mix 5-1/2 pints in 100 gallons of water. Apply 4 gallons of suspension as a drench on the lower trunk area of each tree. Apply either in early spring or in fall after harvest each year. Do not use if soil pH is below 5.5 or copper toxicity may result. (EXCEPT CALIFORNIA)

ALMONDS, Blossom Brown Rot - Use 2-2/3 to 4 pints 3 LB. **COPPER FLOWABLE** per 100 gallons of water (300-400 GPA) during the early bloom stage (popcorn). A second application in late dormant before foliage buds swell may be necessary when frequent rain fall occurs. To avoid plant injury, do not use above rate after full bloom. **Bacterial Blast (Pseudomonas)** - Use 4 to 5-1/3 pints 3 LB. **COPPER FLOWABLE** per 100 gallons at dormant to early pink bud. For blast control in sprinkler irrigated orchards or where disease is severe, apply 2-4 3 LB. **COPPER FLOWABLE** sprays at 4/7 pint per 100 gallons at 2 week post-bloom intervals or just before sprinkling. Slight leaf injury may occur from post-bloom spray.

APRICOTS, Coryneum Blight (Shot Hole) & Blossom Brown Rot - Apply at popcorn to full bloom using 2-2/3 to 4 pints per 100 gallons as a full cover spray (300-400 GPA). To avoid spray injury, do not apply after bloom.

FLORIDA AVOCADOS, Scab - Apply when bloom buds begin to swell at 2-2/3 pints 3 LB. **COPPER FLOWABLE** per 100 gallons or 10-2/3 to 13-1/2 pints per acre depending on equipment. Continue application at monthly intervals for 5 to 6 applications. Follow recommendations of State Agricultural Experiment Stations.

BANANAS, Sigatoka - Apply by air to 2-2/3 pints per acre in 3 gallons of water containing 0.5 gallon agricultural oil. Apply on a 14 day schedule throughout the wet season. Apply at 21 day intervals during dry periods. **Black Pitting** - Apply at 5-1/3 pints per 100 gallons directly to the fruit stem and include the basal portion of the leaf crown. Apply during the first and second weeks after emergency.

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BEANS, Bacterial Blight (Halo & Common) - For protective sprays, apply first application when plants are six inches high. Apply on 7-14 day schedule depending on local condition. Use 1-1/3 to 4 pints per acre depending on disease severity.

BLACKBERRIES (Santiams, Logans, Boysens, Marions, Auroras, Cascades, Chehalems & Thornless Evergreens), Leaf & Cane Spot - Apply delayed dormant spray after training in spring at 5-1/3 pints plus 1 quart superior-type oil per 100 gallons. Apply again in late spring at 2-2/3 pints plus 1 quart superior-type oil per 100 gallons. Make fall spray application after harvest using 5-1/3 pints plus 1 quart superior-type oil per 100 gallons.

BROCCOLI, BRUSSELS SPROUT, CABBAGE & CAULIFLOWER, Downy Mildew, (Michigan) - Apply 2/3 to 1-1/3 pints in a minimum of 25 GPA at 7 day intervals. (**CABBAGE ONLY**), **Black Rot (Xanthomonas), & Black Leaf Spot (Alternaria)**. (Northeastern and North Central States) - Apply at 2-2/3 pints per acre in a minimum of 25 GPA at 7 to 10 day intervals. (Caution: A slight reddening of older leaves may occur on broccoli, and a slight flecking wrapper leaves may occur on cabbage at the 2-2/3 pints rate.)

CACAO, Black Pod - Begin applications at the start of the rainy season and continue while infection conditions persist. Sprays should be made as often as 14 to 21 days in high rainfall areas at varying rates from 2-2/3 to 6 pints per acre depending on disease severity. For drier areas, where 2 to 4 applications are recommended during critical infection periods and at long intervals, use 8-2/3 to 11-1/3 pints per acre, according to disease incidence and planting density.

CANTALOUPE, HONEYDEWS & MUSKMELONS, Downy Mildew - Apply weekly at 2-2/3 pints per acre before disease appears.

CARROTS, Carrot Blight (Cercospora) - When disease threatens, apply 2-2/3 pints per acre at 7 to 14 day intervals depending on disease severity.

CELERY, Early, Late & Bacterial Blights - Apply as soon as plants are first established in the field at 2-2/3 pints per acre, then every 5-7 days depending on severity and weather. One to two quarts of a suitable agricultural spray oil per acre may be used as spreader-sticker.

CHERRY, Dead Bud - Apply 8 pints plus 1 pint superior-type oil per 100 gallons in October (before heavy fall rains) and again in January. In orchards where the disease is severe, a spray should also be applied in August.

CITRUS, Melanose, Scab, Greasy Spot & Pink Pitting - Apply as pre-bloom and post bloom sprays. Use 1 to 2 pints 3 LB. **COPPER FLOWABLE** per 100 gallons, depending on disease severity. May be used in concentrate sprays at equivalent rates. For aerial application use 8 pints 3 LB. **COPPER FLOWABLE** per 10 gallons per acre. **Brown Rot** - Use 2/3 to 1-1/3 pints per 100 gallons as dilute spray or at equivalent rate as concentrate spray depending on severity of disease. Begin application in fall before or just after heavy rains. Apply also to bare ground one foot beyond skirt. (California only. In areas subject to copper injury, add 1/3 to 1 pound of high quality lime per 1-1/3 pints of 3 LB. **COPPER FLOWABLE**).

COFFEE, Iron Spot (Cercospora coffeicola) & Pink Disease (Corticium salmonicolor) - Apply at 2-2/3 pints per acre as a concentrate or dilute spray. Begin treatment at start of wet season and continue at monthly intervals for three applications. **Leaf Rust (Brazil)** - Apply at 4-2/3 to 7-1/3 pints per acre for average density plantations. High density plantations may require 9-1/3 to 10-2/3 pints per acre. Make application from September to March depending on altitude and local recommendations. Apply 3-4 week intervals depending on disease severity and rainfall conditions.

CRANBERRY, Fruit Rot, (Wisconsin) - Apply 10-2/3 pints per acre beginning in late bloom. One or two additional applications made at 10 to 14 day intervals may be required, depending on disease pressure. Follow the advice of the local Agricultural Extension Service.

CUCUMBERS, Angular Leaf Spot & Downy Mildew - Apply weekly once the plants begin to vine. Use at 2 to 2-2/3 pints per acre.

CURRENTS & GOOSEBERRY, Leaf Spot - Make three applications of 3 LB. **COPPER FLOWABLE** at 10-2/3 pints per acre, starting after harvest, before bloom and after petal fall.

FILBERTS, Bacterial Blight - Apply 5-1/3 to 8 pints plus 1 pint superior-type oil per 100 gallons

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in late August or early September. In seasons of heavy rainfall, apply another spray when three-fourths of the leaves have dropped.

GRAPES, Downy Mildew, (New York) - Apply at 2-2/3 pints per acre as a dilute or concentrate spray for the last one or two late summer applications following early season application of another fungicide. Follow State schedule for exact timing. (Attention: Slight to severe foliage injury may occur on copper-sensitive varieties such as Concord, Delaware, Niagara, and Rosette.)

HOPS, Downy Mildew - Apply 2-2/3 pints as a fungicide crown treatment (after pruning, but before training) as needed. After training, additional fungicide treatments are needed at about 10 day intervals. Discontinue use 2 weeks before harvest.

LETTUCE, Downy Mildew - Apply 1-1/3 to 2-2/3 pints 3 LB. COPPER FLOWABLE per acre. Begin treatment when disease first appears and repeat every 7-10 days as needed to suppress disease.

LIVE OAK, Ball Moss (Texas only) - Apply at 8 pints per 100 gallons of water, in spring after heavy rain, using 1.5 gallons of spray per foot of tree height. Make sure to set tufts thoroughly. A second application may be required after 12 months.

FLORIDA MANGO, Anthracnose - Apply monthly after fruit set until harvest at 2-2/3 pints 3 LB. COPPER FLOWABLE per 100 gallons or 10-2/3 to 13-1/3 pints per acre depending on equipment. Consult Extension Service for local recommendations.

CALIFORNIA OLIVES, Peacock Spot - Make first application at 2-2/3 to 4 pints per 100 gallons or at 10-2/3 to 16 pints per acre depending on equipment before winter rains fall. A second application in early spring should be made if disease is severe.

ONION, Purple Blotch & Downy Mildew - Apply 2-2/3 pints 3 LB. COPPER FLOWABLE per acre when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals.

PEACHES & NECTARINES, Leaf Curl & Coryneum Blight (Shot Hole) - Dormant application, apply at leaf fall. Dilute: Apply 2-2/3 to 5-1/3 pints per 100 gallons (minimum of 10-2/3 pints/acre). Use 21-1/3 pints per acre when rainfall is very heavy and disease pressure is high. Use 4-6 gallons of agricultural spray oil per acre. **Brown Rot Blossom Blight, (California)** - Apply at 2-2/3 to 4 pints per 100 gallons as a full cover spray at pink bud. (Application at this time also affords some control of leaf curl and coryneum blight.) **Bacterial Spot** - Dormant application, apply at 2-2/3 pints per 100 gallons. Postbloom (Ala., Ark., Fla., Ga., La., Miss., N.C., Okla., S.C., Tx), apply 1/3 pint per 100 gallons at first and second cover sprays. Do not spray later than three weeks prior to harvest. Do not use at rates above those recommended. (Attention: Slight defoliation and spotting of leaves may occur from use in cover sprays.)

PEANUTS, Cercospora Leaf Spot - Begin spraying 40-45 days after planting or when disease symptoms appear. Make ground or aerial application at 2 to 4 pints per acre. For aerial application use 3-10 gallons of water. Continue applications at 10-14 day intervals. Use sufficient water to get adequate coverage. 3 LB. COPPER FLOWABLE may be blended with Flowable Sulfur Products.

PEARS, Fire Blight, (West of Mississippi River) - Apply at 1/3 pint per 100 gallons or 1-1/3 pints per acre at 5 day intervals throughout bloom period. Excessive dosages may cause fruit russet.

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PEAS (Black-Eyed), Powdery Mildew - Begin spray treatment when disease symptoms first appear. Use at 2-4 pints per acre according to disease severity. Repeat applications at weekly intervals.

PEPPERS, Bacterial Leaf Spot - When disease threatens, apply 2-2/3 to 4 pints per acre (1-1/3 to 2 pints per 100 gal) at 7-14 day intervals depending on disease severity.

PHILODENDRON, Bacterial Leaf Spot - Apply weekly before disease appears at 2 pints 3 LB. **COPPER FLOWABLE** plus 1.5 pounds of a coordination product made of maneb and zinc (80% active compound) per 100 gallons of water.

POTATOES, Early & Late Blight - Apply at 7 day intervals starting when plants are 3 weeks old or when first disease symptoms appear. Use at weekly intervals at 2-4 pints per acre depending on disease severity.

PUMPKINS & SQUASH, Powdery Mildew - Begin applications when plants are 3 weeks old or when first disease symptoms appear. Use at weekly intervals at 2-4 pints per acre depending on disease severity.

STRAWBERRIES (NURSERY), Leaf Spot & Leaf Blight - Apply at 2-2/3 to 4 pints in 100 gallons per acre. Begin application when plants are established and continue on a weekly schedule throughout season. Discontinue applications if signs of phytotoxicity appear.

SUGAR BEETS, Cercospora Leaf Spot - Start spray when disease threatens and continue for 4 to 5 applications. Spray 10-14 days depending on weather conditions at 2-2/3 to 6-2/3 pints per acre depending on disease severity. Addition of suitable agricultural spray oil is recommended at 2 quarts per acre.

SYCAMORE, Anthracnose, (California) - Make two applications using 2-2 3 to 4 pints per 100 gallons as a full cover spray. Make first application at bud crack and second application 7-14 days later at 10% leaf expansion.

TOMATOES, Early Blight - When disease threatens, apply 2-2/3 to 4 pints per acre at 7-10 day intervals. **Bacterial Speck** - Apply at 2-2/3 pints per acre at 10-30 day intervals beginning when the disease threatens. Use more frequent applications when disease pressure is high. **Bacterial Spot** - When disease threatens, apply 2-2/3 to 5-1/3 pints per acre at 7-10 day intervals, more frequently when disease is severe.

WALNUT, Walnut Blight - Apply first spray at early pre-bloom when catkins are partially expanded. Make three additional applications during bloom and early nutlet stages at 7-10 day intervals. Additional applications may be necessary when frequent rainfall occurs. Dilute: Apply 2-2/3 pints per 100 gallons water (minimum of 10-2/3 per acre). Concentrate: Apply a minimum of 5-1/3 pints per acre in 50-100 gallons water per acre. One pint of summer oil emulsion may be added per 100 gallons of spray. Do not apply more than 17 pints per acre per application.

WATERMELON, Anthracnose & Downy Mildew - Apply as soon as plants become established and at weekly intervals thereafter. **Anthracnose** - Use at 2-2/3 pints per acre. **Downy Mildew** - Use at 2-4 pints per acre, according to disease severity.

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WHEAT & BARLEY, Septoria Leaf Blotch & Helminthosporum Spot Blotch - Apply 2 to 2-2/
3 pints per acre. Make first application at early heading and follow with second application 10 days
later.

**CONDITIONS OF SALE - LIMITED WARRANTY
AND LIMITATIONS OF LIABILITY AND REMEDIES**

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions, the failure to follow the label directions, or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damage and in no event shall damages or any other recovery of any kind against the Company exceed the price of the product which causes the alleged loss, damage, injury, or other claim. The Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income.

The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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