



ACCEPTED
with COMMENTS
to EPA Letter D-423

SEP 22 1982

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
423

MANZATE® FLOWABLE FUNGICIDE

with zinc

Contains 4 lbs. Active Per Gallon

ACTIVE INGREDIENT:

Maneb (Manganese ethylenebisdithiocarbamate) 37%
(Manganese equivalent as metallic 7.6%)

INERT INGREDIENTS: 63%
TOTAL: 100%

U.S. Pat. 3,379,610

EPA Reg. No. 352-xxx

Keep out of reach of children.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes Eye Irritation
WARNING! May Irritate Nose, Throat, and Skin
May be Harmful If Inhaled Or Swallowed

Do not get in eyes. Avoid contact with skin and clothing. Avoid breathing spray mist.

FIRST AID: In case of contact, flush skin or eyes with plenty of water; for eyes, get medical attention.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to lakes, streams, or ponds. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning of equipment or disposal of wastes.

IMPORTANT: Keep in a cool place but not below 32°F. Temperature extremes will affect the quality of Manzate® Flowable.

STORAGE AND DISPOSAL

Do not contaminate water, food or feeds by storage or disposal.

PESTICIDE DISPOSAL: Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable Federal, state, or local procedures.

CONTAINER DISPOSAL: Triple rinse (or equivalent) and offer for recycling or reconditioning, or dispose of in a sanitary landfill or by incineration if permitted by state or local authorities.

DIRECTIONS FOR USE - SEE ATTACHED FOLDER

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

Du Pont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by Du Pont. User assumes all risks associated with such nonrecommended use.

NOTICE OF WARRANTY

Du Pont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with the directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

NET 2 1/2 U.S. GALLONS

E. I. DU PONT DE NEMOURS & COMPANY (INC.)
BIOCHEMICALS DEPARTMENT, WILMINGTON, DELAWARE

PRODUCT LABELING

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with COMMENTS
in EPA Letter Dated:

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SEP 22 1982

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352-XXX



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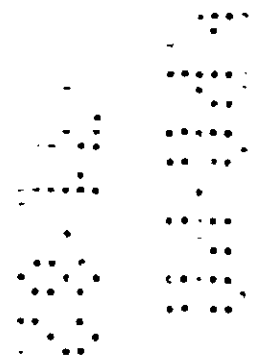
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DIRECTIONS FOR USE

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

Manzate® Flowable should be used only in accordance with recommendations on this label, or in separate published Du Pont recommendations available through local dealers.

Du Pont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by Du Pont. User assumes all risks associated with such nonrecommended use.

As a Spray (Ground or Aerial Equipment) - Apply Manzate® Flowable at a rate of 1.2 qts. (unless otherwise stated) in sufficient water to provide thorough coverage, usually 20 to 100 gals. per acre by ground and 5 to 8 gals. per acre by air. In case of severe disease outbreaks or when weather conditions favor disease, use 1.6 qts. and shorten the spray interval. Add Manzate® Flowable slowly to water in the spray tank with agitation, or premix thoroughly in separate holding tank for concentrate or aircraft sprayers. Continuous agitation is required to keep the product in suspension.

FRUITS AND NUTS

ALMONDS - Brown rot (blossom and twig blight). Use 1.2 to 1.6 qts. per 100 gals. (4.8 to 6.4 qts. per acre) at the popcorn, full-bloom and petal-fall stages.

Shot hole - Use the same rates but begin applications in the dormant stage. Repeat at 7-to 10-day intervals through petal-fall.

APPLES - Scab, cedar apple rust, black rot (fruit and foliage), fly speck, sooty blotch, bitter rot, and white rot (Botryosphaeria). Use 0.8 qts. to

1.2 qts. per 100 gals. and apply up to 8 qts. product per acre per application (for low-volume sprays, adjust accordingly). Apply at 7- to 14-day intervals throughout the season. For scab, begin at green tip or delayed dormant stage; for cedar apple rust, at blossom time; for other diseases, at first cover. Do not apply within 30 days of harvest; do not graze livestock in treated areas.

APRICOTS - Brown rot (blossom, twig and fruit). Use 1.2 to 1.6 qts. per 100 gals. (4.8 to 6.4 qts. per acre) at red bud stage. Repeat at early-bloom, full-bloom, petal-fall and at 7- to 14-day intervals as necessary up to 2 weeks before harvest.

Green or jacket rot. Use 1.6 qts. per 100 gals. at full-bloom and petal-fall.

Shot hole (fungus). Use 1.6 qts. per 100 gals. from dormant through petal-fall stages on a regular schedule.

Do not apply within 14 days of harvest.

Do not use in combination with Diazinon® on apricots.

BANANAS - Sigatoka disease (*Cercospora musae*). Use 2.4 to 4.0 qts. per acre in sufficient water (or other suitable carrier) to thoroughly cover all plant surfaces. Begin when disease first appears and repeat every two weeks as needed.

CRANBERRIES - Fruit rots (Massachusetts, New Jersey, Wisconsin); cranberry twig blight and fruit rot (Washington and Oregon). For conventional spray equipment, use 1.6 to 2.4 qts. per 100 gals. of water. Apply at a rate of 300 gals. of spray per acre. For concentrate sprayers (ground equipment), use 7.2 qts. in 20 to 35 gals. For aerial application, use 7.2 qts. in 13 gals. of water per acre. Begin applications at mid-bloom and repeat at 7- to 10-day intervals. Do not apply later than 4 weeks after mid-bloom.

FIGS (Kadota) - Surface molds (*Cladosporium*) and rot (caused by *Alternaria*). Use 0.6 qts. per 100 gals. of water (basis high-volume spray equipment). Be sure to get uniform coverage. Make a single application 10 to 20 days before harvest (usually early September). Do not apply within 10 days of harvest.

GRAPES - Black rot (bunch rot). Use 1.2 to 3.2 qts. per acre by ground or air starting when new shoots are 8 to 10 inches long (pre-bloom). Repeat just after bloom and 7 to 10 days later. When fruit is present, use maximum of 1.5 qts. per acre. Do not apply within 7 days of harvest.

NECTARINES - Brown rot, shot-hole. Use 4.8 to 6.4 qts. in sufficient water per acre by ground or air. Begin at red bud and repeat in early-bloom, full-bloom, petal-fall, and at 7-to 14-day intervals. Do not apply within 14 days of harvest.

PAPAYAS - Anthracnose (*Colletotricum*), black spot (*Cercospora*). Use 1.6 to 2.4 qts. in sufficient water (min. 50 gals. per acre) to provide thorough coverage. Spray every 10 to 14 days during winter and early spring months when disease incidence is high, and as often as every 7 days during wet weather. Direct spray to center column of tree to thoroughly cover developing fruit.

PEACHES - For brown rot, scab, and shot-hole, refer to recommendations for nectarines.

For peach leaf curl, use 4.8 to 6.4 qts. in sufficient water per acre. Apply in spring dormant period.

Do not apply within 2 days of harvest. If applied within 14 days of harvest, remove residues by brushing.

VEGETABLES

ASPARAGUS - Rust. Use 1.6 to 2.4 qts. per acre and 50 to 200 gals. of water depending upon the size of the plants. Begin application to established fields after the crop has been harvested and continue at 10-day intervals until disease is under control. In young fields which will not be harvested, start when disease first appears and repeat at 10-day intervals as needed.

BEANS - Anthracnose, downy mildew, rust. Apply 1.2 to 1.6 qts. in sufficient water to obtain thorough coverage of the plants. Begin when disease first appears and repeat at 4- to 10-day intervals (7-day intervals for rust). Do not apply to succulent beans within 4 days of harvest.

Beans as a generic term include the following crops: kidney beans, lima beans, mung beans, navy beans, pinto beans, snap beans, wax beans, broad beans, fava beans, asparagus beans, blackeyed peas, and cowpeas.

BROCCOLI - Alternaria leaf spot, downy mildew. Apply 1.6 to 3.2 qts. per acre in sufficient water (usually 100 to 150 gals. per acre for full gallonage hydraulic equipment, and 75 gals. for air blast) for thorough coverage. Start application when disease threatens and continue at 7- to 14-day intervals as needed. When conditions are severe, shorten interval. If applied within 3 days of harvest, remove residues by washing or trimming.

BRUSSELS SPROUTS - For Alternaria leaf spot and downy mildew, use 1.2 qts. per acre. Begin application when diseases threaten and repeat at 3-day intervals in plant beds and at 7- to 10-day intervals in the field.

CABBAGE - Alternaria leaf spot and downy mildew. Use 1.2 qts. per 100 gals. and apply up to 150 gals. per acre.

Plant beds and direct-seeded fields - Apply 7- to 10- days after planting or earlier if disease is present. Repeat at 3-day intervals until plants are set in the field or until field-seeded plants are thinned.

Fields - Apply when the disease threatens; repeat weekly as needed. Shorten intervals to 3 to 5 days under severe conditions. Do not apply within 7 days of harvest.

CANTALOUPEs - Refer to recommendations for melons.

CARROTS - Alternaria and Cercospora leaf spot. Use 1.2 to 1.6 qts. per acre and start applications when plants are 6 weeks old or when disease threatens. Repeat at 7- to 10-day intervals.

CAULIFLOWER - Refer to recommendations for Brussels sprouts.

CELERY - Early blight (*Cercospora*) and late blight (*Septoria*). Use 1.2 to 1.6 qts. per acre and apply when plants are established in the field; repeat as frequently as required (weekly under average conditions or every 3 to 5 days under severe disease conditions). Do not apply within 14 days of harvest. Remove residues by stripping, trimming, and washing.

COLLARDS - *Alternaria* leaf spot and downy mildew. Use 1.2 to 1.6 qts. per acre. Start applications when disease first threatens in the area and repeat at 7- to 10-day intervals. Do not apply within 10 days of harvest. Remove residues by washing.

CORN (SWEET) - *Helminthosporium* leaf blight. Use 1.2 qts. per acre per 100 gals. of water. Begin applications when disease first appears and repeat at 4- to 7-day intervals. Do not apply within 7 days of harvest. Do not feed treated forage to livestock.

CUCUMBERS - *Alternaria* (*Macrosporium*) leaf spot, angular leaf spot, anthracnose, downy mildew, *pythium* fruit rot. Use 1.6 to 2.4 qts. per acre and begin applications when disease threatens or plants begin to run. Repeat at 7- to 10-day intervals or at 3- to 5-day intervals under severe disease conditions. Do not apply within 5 days of harvest.

EGGPLANT - Anthracnose, early blight (*Alternaria*), *Phomopsis* blight, or fruit rot. Use 1.2 to 1.6 qts. per acre and begin when fruit starts to form. Repeat at 7- to 10-day intervals.

ENDIVE - Downy mildew. Use 1.2 to 1.6 qts. per acre in up to 150 gals. water. Apply when disease appears and repeat at 7- to 10-day intervals or at 3- to 5-day intervals under severe disease conditions. Do not apply within 10 days of harvest. Remove residues from head lettuce by stripping and trimming, and from leaf lettuce and endive by washing or other effective means.

HONEY BALL MELONS - Refer to recommendations for melons.

HONEY DEW MELONS - Refer to recommendations for melons.

KALE - Refer to recommendations for collards.

KOHLRABI - Refer to recommendations for Brussels sprouts.

LETTUCE - Refer to recommendations for endive.

MELONS - Anthracnose, *Cercospora* leaf spot, downy mildew, and gummy stem blight. Use 1.2 to 1.6 qts. per acre and start applications when runners begin to form or when disease threatens. Repeat every 7 to 10 days as needed. Under severe disease conditions, shorten spray intervals to 2 to 5 days. Do not apply within 5 days of harvest.

MUSK MELONS - Refer to recommendations for melons.

MUSTARD GREENS - Refer to recommendations for collards.

ONIONS - Blast (*Botrytis* leaf blight), downy mildew, and purple blotch (blight). Use 1.2 to 1.6 qts. per acre, and apply when disease first threatens. Repeat every 7 days as needed.

PEPPERS - Anthracnose, Cercospora leaf spot (frog-eye spot). Use 1.2 to 1.6 qts. per acre and begin applications when disease first threatens. Repeat at 7- to 10-day intervals.

PERSIAN MELONS - Refer to recommendations for melons.

POTATOES - Early and late blight. Use 0.8 to 1.6 qts. per acre. Apply as soon as plants are 2 to 6 inches high and repeat at 5- to 10-day intervals as long as blight threatens. Under severe disease conditions use the shorter interval or the higher dosage.

POTATOES (SEED PIECES) - Fusarium seed piece decay. Use 1 qt./10 gallons of water. Dip whole or cut tubers and spread in a cool place if held before planting. This is a seed piece treatment only; do not use treated seed pieces for food or feed.

PUMPKINS - Angular leaf spot, downy mildew. Use 2.4 qts. per acre in sufficient water to wet plants thoroughly. Begin applications when disease threatens and repeat at 7- to 10-day intervals as needed.

RHUBARB - (Greenhouse, Michigan) - Botrytis leaf rot. Use 1.6 qts. per 100 gals. of water and apply at the rate of 15 gals. of spray per 4,000 sq. ft. (approx. 150 gals. per acre). Make 4 applications at 7-day intervals beginning 4 weeks before harvest.

SQUASH (SUMMER AND WINTER) - Anthracnose, downy mildew. Use 1.2 to 1.6 qts. per acre and begin applications when runners form or when disease threatens. Repeat at 7- to 10-day intervals as needed.

Pythium fruit rot. Use 1.6 to 3.2 qts. per acre and begin applications when runners form or when disease threatens. Repeat at 7- to 10-day intervals as needed.

Do not apply within 5 days of harvest.

TOMATOES - Early blight, late blight, Septoria leaf spot, gray leaf spot (Stemphylium) and anthracnose. Use 0.8 to 2.4 qts. per acre for field applications, or 4.5 to 6.1 fluid oz. per 5000 sq. ft. in greenhouses. Apply when fruit of first clusters is well formed; repeat at 7- to 10-day intervals. (Do not use on young seedlings in greenhouses as injury may occur.) When weather conditions favor disease, more frequent applications may be necessary starting when plants are set in fields. Tomato plants treated with Manzate® Flowable tend to develop heavy foliage and spray gallonage should be increased accordingly to assure complete coverage. In areas where anthracnose is a serious problem on canning tomatoes, apply 2.4 qts. per acre. Do not apply within 5 days of harvest.

SPINACH - Downy mildew (blue mold), white rust. Use 1.2 to 1.6 qts. per acre and begin applications when disease first appears in the area. Repeat at 7- to 10-day intervals. Do not apply within 10 days of harvest. Remove residues by washing or other effective means.

TURNIPS - Alternaria leaf spot, downy mildew. Use 1.2 to 1.6 qts. per acre and begin applications when disease threatens. Repeat at 7- to 10-day intervals.

Do not apply within 7 days of harvest. Remove residues by washing.

WATERMELONS - Refer to recommendations for melons.

FIELD CROPS

GRASSES FOR SEED - Leaf, stem, and stripe rusts. Use 1.6 to 2.4 qts. in 50 to 100 gals. of water per acre. Begin applications when first rust pustules are noted and repeat every 7 to 10 days until harvest or as long as rust threatens. Do not feed treated grass to livestock.

SUGAR BEETS - Cercospora leaf spot. Use 1.2 to 2.4 qts. per acre. Start applications when disease threatens and repeat at 7- to 10-day intervals as needed. If up to 1.6 qts. per acre are used and are not applied within 14 days of harvest, there is no restriction on feeding tops. If more than 1.6 qts. per acre are used, do not apply within 10 days of harvest and do not feed treated tops to livestock.

TOBACCO - Anthracnose. Use 1.8 to 3.2 qts. per acre and begin applications after plants are set in the field. Repeat as necessary.

Blue mold. Use 0.8 to 2.4 qts. per 100 gals. Use 2.5 to 5.0 gals. of diluted suspension per 100 square yards of plant bed. Begin applications when plants are about the size of a dime or when blue mold is first reported in the area. Repeat twice weekly or more often if sprays are washed with rain until plants are all in the field. Use lower rates in early applications increase to 2.4 qts. per 100 gals. as plants increase in size. For disease control under field conditions, use 1.6 to 2.4 qts. per acre. Repeat as necessary.

MISCELLANEOUS AGRICULTURAL USES

CONIFERS - Needle diseases such as needle cast (*Lophodermium pinastri*) and brown spot (*Scirrhia acicola*). Use 1.2 qts. per 100 gals. Begin application in spring or early summer before infection occurs. Repeat after heavy rains and at two week intervals as long as needed.

ROSES - Cercospora leaf spot, rust, black spot. Use 1.2 qts. per acre and start applications when first leaves unfold. Repeat at 7-day intervals as needed.

