

PM 21 352-354

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APR 07 1993

Janice K. Sharp, Ph.D.
E. I. Dupont De Nemours & Co., Inc.
Walker's Mill, Barley Mill Plaza
P. O. Box 80038
Wilmington, DE 19880-0038

Dear Dr. Sharp:

Subject: Benlate Fungicide - Revised Labeling
EPA Registration No. 352-354
Your Submission Dated January 11, 1993

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with comment(s) listed below. A stamped copy of the label is enclosed for your records.

- Under Caprifig (crop), delete "before planting". This is not a seed piece treatment.

If you have any questions regarding this matter, please contact me or Sidney Jackson at (703) 305-7610.

Sincerely yours,

Carl S. Chambliss for

Ben C. Chambliss
Acting Product Manager (21)
Fungicide-Herbicide Branch
Registration Division (H7505C)

Enclosure

CONCURRENCES							
SYMBOL	H7505C						
SURNAME	Chambliss						
DATE	4/5/93						

REGISTRATION CODE 0000-01

PACKAGE SIZE

6 - 2 POUND BAGS / CARTON

6 - 5 POUND BAGS / CARTON



BENLATE®

FUNGICIDE

WETTABLE POWDER

ACTIVE INGREDIENT

Benomyl [Methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate].....50%

INERT INGREDIENTS.....50%

TOTAL 100%

EPA Reg. No. 352-354

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! MAY IRRITATE EYES, NOSE, THROAT AND SKIN.

Avoid breathing dust or spray mist. Avoid contact with skin, eyes, and clothing. Wash thoroughly after using.

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.

Protective clothing must be worn during periods of exposure. See Directions for Use.

This product may cause a temporary allergic skin reaction in a few susceptible persons. This condition should be treated as an allergic dermatitis. There is no evidence of after effects or permanent injury.

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

Aerial Mixer-Loaders: Wear a dust mask or a respirator during handling and mixing as this product may be harmful if inhaled. See Directions for Use.

For medical emergencies involving this product, call toll free 1-800-441-3637.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark, except for the registered aquatic use on rice. Do not apply where runoff is likely to occur. Drift and runoff from treated areas may be hazardous to fish in adjacent areas. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift from areas treated.

For registered aquatic uses: Aquatic organisms may be killed at recommended application rates.

PHYSICAL OR CHEMICAL HAZARDS

Keep away from fire or sparks.

NOTICE

Entry into treated fields without personal protective equipment is restricted for 24 hours following application of benomyl. 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.

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. 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. Warnings must include the following information: "CAUTION. Area treated with 'Benlate' on (date of application). Entry into treated fields without personal protective equipment is restricted for 24 hours following application of benomyl. In case of contact, flush skin or eyes with plenty of water; for eyes, get medical attention."

ACCEPTED
with
in EP.

Under
Fungicide
amended
registered under

352-354

3010

DIRECTIONS FOR USE

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

Du Pont "Benlate" 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 risk associated with such nonrecommended use.

"Benlate" is a systemic fungicide recommended for the control of many important plant diseases. If treatment is not effective following use of "Benlate" as recommended, a resistant strain of the fungus may be present. If treatment is ineffective due to the presence of a benomyl resistant strain, then neither "Benlate", nor any other benzimidazole or thiophanate type fungicide will effectively control that disease; consideration should be given to prompt use of other types of suitable fungicides.

The repeated exclusive use of "Benlate" may lead to buildup of resistant strains of fungi and loss of disease control. A spray program using other fungicides may delay resistant strain buildup. Consult your state extension specialist or official state recommendations for guidance on your particular crop and disease control situation.

NOTE: Do not tank mix or alternate "Benlate" with benzimidazole or thiophanate products such as "Mertect" or "Topsin".

Do not tank mix "Benlate" with lime or alkaline pesticides such as Bordeaux mixture or lime sulfur.

Do not use on Greenhouse crops, including Hydroponic grown crops.

Do not use on any container grown crops.

Do not use on ornamentals.

Entry into treated fields without personal protective equipment is restricted for 24 hours following application of benomyl.

WORK SAFETY RULES

Keep all unprotected persons, children, livestock and pets away from treated area or where there is danger of drift.

During mixing and loading of the concentrated product wear the following protective clothing and equipment:

Long sleeve shirt and long legged pants; chemical resistant gloves, chemical resistant apron; chemical resistant shoes, shoe coverings, or boots. Wear a dust mask or a respirator approved by the National Institutes of Occupational Safety and Health (30 CFR Part 11) when mixing or loading for aerial application.

Wear the following protective clothing during application, equipment repair, equipment cleaning, and during reentry to treated areas before expiration of the 24-hour reentry interval:

Long sleeve shirt and long legged pants; chemical resistant gloves; chemical resistant shoes, shoe coverings, or boots. During aerial application from enclosed cockpits wear long sleeve shirt and long legged pants. A clean pair of chemical resistant gloves must be carried in the cockpit and worn during exiting from the aircraft.

Important! Before removing gloves, wash them with soap and water. Always wash hands, face, and arms with soap and water before smoking, eating, drinking or toileting.

After work, take off all clothes and shoes. Shower using soap and water. Wear only clean clothes. Do not use contaminated clothing. Wash protective clothing and protective equipment with detergent and water after each use. Personal and protective clothing and equipment use must be laundered separately from household articles. Clothing or protective

equipment heavily contaminated or drenched with benomyl must be destroyed according to state or local regulations. Heavily contaminated or drenched clothing cannot be adequately decontaminated.

Flaggers must be in totally enclosed vehicles.

Apply as a spray with ground equipment (except as otherwise directed), using sufficient water to obtain thorough coverage of plants. Under severe disease conditions use the higher rate and shorter interval specified for each crop; also, for tree crops, use the higher rate for large mature trees. For aerial application (listed crops only) use the following gals. per acre: Rice and Soybeans, 3 to 10; Cabbage (seed crop), Celery, Cucurbits, Peanuts and Sugar Beets, 5 to 10; Almonds, Avocados, Beans, Pecans, Stone Fruits and Strawberries, 10 to 20; Grapes, 15 to 20.

For use in small gardens and orchards (less than 1 acre), application rates may be converted to lbs. per 100 gals. by dividing the lbs. per acre rate in half, and applying the resulting spray mixture at the rate of 4.5 gals. per 1000 sq. ft. (1 lb. "Benlate" per 100 gals. equals 1 tablespoonful per gal.)

Add required amount of "Benlate" to necessary volume of water in spray tank agitated by hydraulic or mechanical means; continuous agitation is required to keep the material in suspension. Do not tank mix "Benlate" with lime or alkaline pesticides such as Bordeaux mixture or lime sulfur.

Where use of spray oil is recommended (apples, peanuts, pecans, stone fruits), use a nonphytotoxic superior-type (60 to 70 second viscosity) spray oil; add as last ingredient to spray tank. Before applying other pesticides in conjunction with spray oil or immediately before or after oil application, consult product labels. Observe all cautions and limitations on labeling of all products used in mixtures.

CHEMIGATION: Apply "Benlate" only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems only on beans, carrots, celery, peanuts, strawberries or tomatoes. Do not apply "Benlate" to any other crops using chemigation.

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 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.

Specific Instructions for Public Water Systems:

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. 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.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

4. 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.
5. 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.
6. 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.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Good agitation is required in the injection tank.
9. In moving systems, apply specified dosage of "Benlate" as a continuous injection. In nonmoving systems inject "Benlate" for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage.
10. Mix the amount of "Benlate" needed for acreage to be treated into the quantity of water determined during prior calibration. For moving systems inject into the system continuously for one complete revolution of the field. For nonmoving systems inject into system for the time established during calibration.
11. Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all "Benlate" is flushed from system.

Specific Instructions for Sprinkler Irrigation Systems:

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

CROP / RATE TABLE

Crop	Disease	Limit/ Acre/ Crop	Rate, Minimum Gallons/A	Initial Application	Repeat Application	PHI Tolerance	Comments
Almonds	Brown Rot Blossom Blight (<i>Monilinia</i>)	48 oz (3 lbs)	16 - 24 oz/A (1-1.5 lb/A) 10 gal/A air	Pink bud	Full bloom or 10 days later, whichever comes first	0 days 0.2PPM (nut) 1 PPM (hulls)	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide. Under severe disease conditions or on disease susceptible varieties, make a second application during half to full bloom.
Apple	Scab (<i>Venturia</i>) Powdery Mildew (<i>Podosphaera</i>)	80 oz (5 lbs)	6-12 oz/A 2-3 oz/100 gal dilute spray	1/2" green tip	7-14 day intervals	14 days 7 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide. Under severe disease conditions or on disease susceptible varieties, use higher rates and shorter intervals. Spray injury may result if Captan is used as a tank mix partner, immediately before, or closely following an oil spray. Do not graze live stock in treated orchards.
	Fly Speck (<i>Schizothyrum</i>) Sooty Blotch (<i>Gloeodes</i>) Black Rot (<i>Botryosphaeria</i>)			Petal fall, or when disease threatens	14-21 day interval		
	Fruit rots <i>Botrytis</i> spp. <i>Pennicillium</i> spp. <i>Gloeosporium</i> spp.		6 oz/100 gal (0.36 lb)	3 - 2 weeks before harvest	None		
Apricots							See Stone Fruits
Avocados (FL - only)	Scab (<i>Spaceloma</i>) <i>Cercospora</i> Spot, Anthracnose	224 oz (14 lbs)	16-32 oz/A (1-2 lb/A) 10 gal/A air	Bud swell	3-4 week intervals	30 days 3 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide.
Barley							See Wheat

Crop	Disease	Limit/Acre/Crop	Rate, Minimum Gallonage	Initial Application	Repeat Application	PHI Tolerance	Comments
BEANS Dry Lima Snap	White Mold (Sclerotinia) Gray Mold (Botrytis)	64 oz (4 lbs)	24-32 oz/A (1.5-2 lb/A) 3 gal/A air 25 gal/A ground	Initial bloom (25-50%) Pacific NW - prior to first petal fall/row fill	7-10 days later	14 days dry/snap 28 days Lima	Can use through irrigation systems. For narrow-row (20-40") irrigated dry beans in MT, NE, CO, WY, apply at initial bloom and repeat 7 - 10 days later; only partial control of white mold may result. For band sprays, a second application may be needed under heavy disease conditions. A 3-nozzle per row arrangement used at high pressure provides best results.
	Fusarium Root Rot		32 oz (2 lb)/A 25 gal/A ground .6 oz/50 lb (seed int) 12-16 oz/A (in-furrow spray) 15-20 gal/A	Band application at 10 - 20% bloom (Dry beans) Seed treatment - apply dry in planter box. In-furrow spray - apply at planting.	None	2 PPM	Place 1/2 seed in planter box, sprinkle 1/2 the amount of "Benlate" over the seed surface and stir until seed is thoroughly covered. Add the remaining 1/2 of the seed and stir as described above. Label treated seed "Do not use treated seed for food, feed, or oil purposes. This seed treated with "Benlate" Fungicide. Note: Treatment does not control Pythium sp.
Blueberries	Botrytis Blossom Blight, Mummy Berry	64 oz (4 lbs) before harvest 64 oz (4 lbs) after harvest	16 oz (1 lb)/A	Green tip	7-10 day intervals through petal fall	21 days 7 PPM	Do not apply more than 4 - 16 oz applications before harvest. Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide. Do not use on container grown Blueberries.
	Anthracoese Leaf spot	128 oz total (8 lbs)	16 oz (1 lb)/A	When disease appears	Repeat 14 days later. After harvest, make 4 applications at 14 day intervals as needed.		
BRASSICA (seed int. only) Broccoli Brussel Sprouts Cabbage Chinese Cabbage Cauliflower Collard Kale Kohlrabi Mustard Greens Rape (Canola) Rutabagas Turnips	Seedborne Blackleg (Phoma)		8 oz (0.5 lb) per 1/2 to 3 pints water per 100 lb seed	Seed treatment (slurry)	None	NA	Make a slurry of 8 oz. of Benlate in sufficient water (normally 1/2 - 3 pts.) to uniformly treat 100 lbs. of seed. Apply by means of a slurry-type treater specifically designed and approved for this purpose. An EPA approved dye which will impart an unnatural color to the treated seed must be used during treatment. Seeds must be planted any time after being well cured. Allow seeds to dry before planting. Label treated seed "Do not use treated seed for food, feed, or oil purposes. This seed treated with "Benlate" Fungicide."
BRASSICA (seed crop only; all of the crops above except Rape)	Sclerotinia White Mold	96 oz (6 lbs)	32 oz (2 lb)/A 5 gal/A air	First petal fall	14 day intervals	NA	Add a spreader sticker to aid in wetting plants. Do not graze treated areas. Do not use seed or plant parts for food or feed.
BRASSICA Brussel Sprouts	White Mold (Sclerotinia) Gray Mold (Botrytis) Anthracoese Ring Spot	96 oz (6 lbs)	32 oz (2 lb)/A 3-10 gal/A air	When disease appears	7 day intervals	7 days 15 PPM	
BRASSICA Chinese Cabbage	White Mold (Sclerotinia)	48 oz (3 lbs)	8 oz (0.5 lb)/A	When disease appears	7-10 day intervals	7 days 10 PPM	Do not make more than 6 application per crop per season.
Turnip Greens (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA only)	Cercospora /Cercospora Leaf spots Anthracoese Powdery Mildew (Erysiphe)	24 oz (1.5 lbs)	8 oz (0.5 lb)/A 3-10 gal/A air	When disease appears	14 day intervals	14 days 6 PPM	Use limited to AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA. Do not make more than 3 application per crop per season.
CANE -BERRIES Raspberries Blackberries Boysenberries Loganberries Dewberries	Botrytis Powdery Mildew Penicillium Rots	60 oz (3.75 lb)	12 oz/A (0.75 lb/A)	Early bloom (5-10%)	Full bloom, followed at 14 day intervals	3 days 7 PPM	

Crop	Disease	Limit/ Acre/ Crop	Rate, Minimum Gallonage	Initial Application	Repeat Application	PHI Tolerance	Comments
Caprifigs (CA only) (mammary crop)	Endosepsis	4 oz (0.25 lb)	4 oz/25 gallons	Before planting; Emmerse figs into solution	None	NA	Do not apply thorough irrigation systems.
Carrots	White Mold (Sclerotinia)	48 oz (3 lbs)	4-16 oz/A (0.25 - 1 lb) 5 gal/A air	When disease appears	7-10 day intervals	4 days 0.2 PPM	May be used through irrigation systems.
Celery	Early Blight (Cercospora) Late Blight (Septoria)	48 oz (3 lbs)	4-8 oz/A (0.25 - 0.5 lb) 5 gal/A air	When disease appears	7-10 day intervals	7 days 3 PPM	May be used through irrigation systems.
Cherries							See Stone Fruits
Chickpeas (ID and WA only)	Seedborne Ascochyta rabiei		10 oz/100 lb seed in 1/3 to 1/2 pints water	Seed treatment (slurry)	None	NA	Label treated seed "Do not use treated seed for food, feed, or oil purposes. This seed treated with "Benlate" Fungicide." Will not control soil borne Ascochyta.
Citrus	Scab (Elsinoe)	96 oz (6 lbs)	24-48 oz/A (1.5-3 lb/A)	Light disease - 2/3 petal fall	None	1 day 10 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-benzimidazole fungicide or alternate with Copper sprays. Do not graze livestock in treated groves.
				Heavy disease - pinhead stage	2/3 Petal fall		
	Greasy Spot (Mycosphaerella)		24-48 oz/A (1.5-3 lb/A)	Mid June - mid July	None		
	Fruit decay (Green or Blue Mold, Stem-end-rot)		16-32 oz/A (1.0-2 lb/A)	Single application 3 weeks - 1 day before harvest	None		
CONIFERS (PINE) Austrian Red Scots	Tip Blight (Diplodia)	48 oz (3 lbs)	16 oz (1 lb)/100 gal	Bud break	10-14 days later just before needles emerge from sheath. Then again 10-14 days after needle emergence.	NA	Do not graze livestock in treated areas.
CONIFERS (FIR) Douglas	Swiss Needle Cast(Phaeocryptopus) Rhabdocline Needle cast	80 oz. (5 lbs.)	16 oz./50-100 gals. (1 lb./50- 100 gals)	Early May	4 weeks intervals; No more than 5 applications	NA	Addition of a spreader sticker will improve coverage. Use lower Gallonage with Mist-blower types of sprayers and higher gallonage with conventional sprayers. Do not graze livestock in treated areas.
CONIFERS (seedling trt.) Longleaf	Brown Needle Blight (Scirrhia)		1 oz/9.5 oz dry Kaolinite clay for seedling roots	Wet seedling roots in clean water, then apply "Benlate" -Kaolinite mixture to wet roots.	NA	NA	Do not apply mixture to seedling foliage. During treatment process, avoid excessive drying of roots or exposure to temperatures greater than 90F or less than 32F.
Loblolly Longleaf Slash	Fusarium and Rhizoctonia Root Rot		2 oz/50 oz Kaolinite clay, plus enough water to make a slurry	Thoroughly cover seedling roots with slurry	NA	NA	"Benlate" does not control Pythium or Phytophthora.
CUCURBITS Cucumber Melon Pumpkin Squash	Anthracoze (Colletotrichum) Gummy Stem Blight (Didymella) Powdery Mildew Target Spot (Corynespora)	32 oz (2 lbs)	4 - 8 oz/A (0.25 - 0.5 lb) 8 oz/A (0.5 lb) / 5-10 gal/A air 50 gal/A ground	When disease appears or when runners form	7-14 day intervals	14 days 1 PPM	7-day interval recommended for target spot. Do not use in Greenhouses. May be used through irrigation systems.
	Cephalosporium Wilt	8 oz (0.5 lbs)	8 oz / A	In-furrow at planting	None		Do not use less than 10 Gallons of solution per acre.
Currents	Powdery Mildew (Sphaerotheca)	60 oz (3.75 lb)	12 oz/A (0.75 lb)	Early bloom	Full bloom followed by 7-14 day intervals	21 days 7 PPM	
Dandelions (FL only)	White Mold (Sclerotinia)	32 oz (2 lbs)	8 oz/A (0.5 lb)	When disease appears	7 day intervals	7 days 10 PPM	FL only
Garlic (CA only)	Penicillium clove rot	16 oz (1 lb)	16 oz/100 gal (1 lb/100 gal)	Completely immerse garlic cloves in suspension for a min. of 5 minutes	None	0.2 PPM	Solution tank must be agitated continuously by hydraulic or mechanical means. After treatment remove cloves from solution, and allow to drain over sand. Dry cloves after treatment and prior to planting.

Crop	Disease	Limb/ Acre/ Crop	Rate, Minimum Gallonage	Initial Application	Repeat Application	PH Tolerance	Comments
Grapes	Botrytis Bunch Rot	96 oz (6 lbs)	16-24 oz/A (1-1.5 lb/A) 15 gal/A air	First bloom ((1-5%)	14 days after first bloom; Additional sprays 3-4 weeks before harvest (sugar increase) and 14 days later if conditions favor disease.	7 days 10 PPM (50 PPM on raisins)	"Benlate" does not control Rhizopus, Alternaria, or Diplodia Bunch Rots. These rots occur most frequently in high temperature areas such as San Joaquin and Sacramento Valleys of California. Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide. Apply immediately after cutting and before rain or dew and spores come in contact with fresh wood.
	Anthracoze (Elsinoe) Isariopsis Leaf spot		24 oz (1.5 lb)/A 15 gal/A air	4-10" shoot growth	10-14 day intervals until harvest, 4 week intervals to vines after harvest		
	Eutypa Dieback		3.2 oz/gal	Immediately after pruning by painting on or spraying	NA		
Grapes (East of Rockies)	Powdery Mildew (Uncinula) Black Rot (Guignardia) Bitter Rot (Melanconium)	96 oz (6 lbs)	12-24 oz/A (0.75-1.5 lb/A) 15 gal/A air	Foliar emergence	14-21 day intervals		
Loganberries							See Caneberries
Macadamia Nuts (HI only)	Botrytis Blossom Blight	84 oz (5.25 lb)	28 oz/A (1.75 lb)	7-14 days before bloom	7-14 day intervals through bloom	0.2 PPM	
Mangoes	Anthracoze	192 oz (12 lb)	16-32 oz/A (1-2 lb/A)	Paricle emergence (2")	7 day intervals through fruit set, followed by 3-4 week intervals	14 days 3 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide.
Melon							See Cucurbits
Mushrooms (Agaricus)	Verticillium Spot (Dry Bubble)	4 oz per (0.25 lb) 1000 sq ft / crop	16 oz/100 gal (use 12.5 gal per 1000 sq ft bed)	In new bed: apply after casing, repeat at pinning	In production bed: apply after picking, repeat 10 days later	2 days 10 PPM	
Nectarines							See Stone Fruits
Onions (seed crop only; CA only)	Botrytis		16 oz (1 lb)/A	When disease appears	7 day intervals	0.2 PPM	Do not use treated Onions for food or feed.
Oranges							See Citrus
Papaya	Anthracoze Powdery Mildew (Oidium)	224 oz (14 lbs)	16-32 oz/A (1-2 lb/A)	Bud expansion	3-4 week intervals	14 days 3 PPM	Do not make more than 7 applications per year.
Peaches							See STONE FRUITS
Peanuts	Cercospora Leaf spot Rust (Puccinia) Ascochyta Web Blotch	48 oz (3 lbs)	4 oz/A (0.25 lb) 5 gal/A air	35-40 days after planting or when disease appears	Leaf spot 10-14 days Rust 7-10 days Web Blotch 7-14 days	14 days 0.2 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide such as "Manzate" 200 DF at 1 1/2 lb per acre. May be used through irrigation systems. Do not graze or feed treated vines, hay or hulls to livestock.
	Blackhull (Threlaviopsis)		4 oz/A	In furrow at planting	NA		
Pears	Scab (Venturia) Powdery Mildew (Phylactinia)	80 oz (5 lbs)	12-24 oz/A (0.75-1.50 lb/A)	1/2" green tip	7-14 day intervals	14 days 7 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide. Do not graze livestock in treated orchards.
	Flyspeck, Sooty Blotch		(4 to 6 oz/100 gal dilute spray)	Petal fall or when disease threatens	14-21 day intervals		
	Fruit rots Botrytis spp. Penicillium spp. Gloeosporium spp.		6 oz/100 gal (0.38 lb)	3-2 weeks before harvest	None		
Pecans	Scab (Fusicladium) Brown Leaf spot (Cercospora) Downy Spot (Mycosphaerella) Powdery Mildew (Microspheera) Liverspot Zonate Leaf spot Fungal Leaf Scorch.	48 oz (3 lbs)	8-16 oz/A (0.5-1.0 lb/A) 10 gal/A air	Bud break or leaf unfolding	Nut formation, and 3-4 week intervals thereafter	15 shuck split 0.2 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide. Use higher rates on trees over 30 ft tall. Spray oils may be applied. Do not apply after shuck split.
Pine							See Conifers

Crop	Disease	Limit/ Acres/ Crop	Rate, Minimum Gallons/Acre	Initial Application	Repeat Application	PHI Tolerance	Comments
Pineapple (seed piece)	Pineapple Butt Rot (<i>Triclavospora paradoxa</i>)	NA	20 oz/100 gals (1 1/4 lbs/ 100 gals)	Immerse seed pieces to give thorough wetting; remove and allow to drain.	None	NA	
Pistachio (CA only)	Shoot Blight (<i>Botrytis</i> , <i>Botryosphaeria</i>)	32 oz (2 lbs)	24-32 oz/A (1.5-2 lb/A) 100 gal/A gmd.	First bloom	None	0.2 PPM	Do not apply by air.
Plums							See Stone Fruits
Pome Fruits							See Apples, Pears
Pumpkin							See Cucurbits
Rape							See Brassica Crops
Raspberries							See Canberries
Rice (excludes CA)	Blast (<i>Pyricularia</i>)	64 oz (4 lbs)	16 - 32 oz (1.0 - 2.0 lb/A) 3-10 gal/A air	Late booting (just prior to head emergence)	7-10 days later or at 90% head emergence from boot	21 days 5 PPM Straw 15 PPM	The most effective way to control blast is to use "Benlate" in a preventive treatment program. Do not apply to field or drain treated water into fields where crayfish or catfish are farmed. Do not apply to stubble rice. Do not use treated water to irrigate other crops. Do not use in CA. Toxic to fish. Keep out of lakes streams or ponds. Do not apply when weather conditions favor drift from treated areas.
	Sheath Blight (<i>Rhizoctonia</i>)			Scout at 1/2" internodes, spray at 5-15% infection	10-14 days later		
	Stem Rot (<i>Sclerotium</i>) Narrow Brown Leaf spot (<i>Cercospora</i>) Leaf smut (<i>Entyloma</i>) Sheath Rot (<i>Acrocyndrium</i>)			Between 1/2-3/4" internodes and late booting	14 days later		
Rutabagas							See Brassicas
SEED CROPS (Grown for seed; CA only) Anise Brussel Sprouts Cabbage Cardoon Cauliflower Chickory Corn Cucumbers Dill Melons Peas Peppers, Bell Squash	Powdery Mildew		16 oz (1 lb)/A 5 gal/A air	When disease appears	7-14 day intervals	NA	Do not use seed or plant parts for food or feed purposes.
Spinach (seed treatment)	Fusarium Wilt		16-32 oz/100 lb seed (1 - 2 lbs) in 1/2 to 2 pints water	Treat seed using slurry-type treater	None	0.2 PPM	Label treated seed "Do not use treated seed for food, feed, or oil purposes. This seed treated with "Benlate" Fungicide."
Soybeans (seed or food crop)	Diaporthe Pod and Stem Blight Anthracnose (<i>Glomerella</i>) Septoria Brown Spot Cercospora Frogeye Leaf spot Purple Seed Stain	32 oz (2 lbs)	8-32 oz/A (0.5-2 lb/A) 5-10 gal/A air	Early pod set (pods 1/8 - 1/4" long at 1 of 4 main stem upper nodes)	14-21 days later (as needed)	35 days 0.2 PPM	Do not graze or feed vines or hay to livestock.
	Aerial Blight (<i>Rhizoctonia</i>)		16 oz (1 lb)/A 5-10 gal/A air	When disease threatens	14-21 days later (as needed)		
Squash							See Cucurbits

Crop	Disease	Limit/ Acre/ Crop	Rate, Minimum Gallons/A	Initial Application	Repeat Application	PH Tolerance	Comments	
STONE FRUIT Apricots Nectarines Peaches Plums Prunes	Brown Rot Blossom Blight (<i>Monilinia</i>)	64 oz (4 lbs)	16-32 oz (1-2 lb) per A East of Rockies 24-32 oz (1.5- 2 lb) per A West of Rockies 10 gal/A air	Apply at early bloom before infection occurs:	Brown Rot Blossom Blight : full bloom or 10 days later with a non-benzimidazole fungicide	3 days 15 PPM	Do not use "Benlate" alone. Use only in combination with labeled non-Benzimidazole fungicide. For aerial application, fly over every row or center. "Benlate" does not control peach leaf curl, shot hole, or bacterial blast, nor fruit rots caused by <i>Rhizopus</i> spp. and <i>Alternaria</i> spp. Do not graze livestock in treated orchards. Peach scab is not labeled west of the Rocky mountains.	
	Powdery Mildew Peach Scab (<i>Venturia</i>)			apricots - early red bud peaches/nectarine s - pink bud plums/prunes - green tip	Powdery Mildew or Peach Scab : full bloom or 10 days later. At shuck fall and 14 days later, use a non- Benzimidazole fungicide			
	Fruit Brown Rot, (<i>Monilinia</i>)			3-21 days before harvest	Use additional non - Benzimidazole sprays as needed			
	Cytospora Canker			2 Tbsp./16 oz wound dressing	During dormancy (may use spray oil)			
	Plums and Prunes	Black Knot, (<i>Dibotryon</i>)	96 oz (6 lbs)	16-32 oz (1-2 lb) per A East of Rockies 24-32 oz (1.5- 2 lb) per A West of Rockies 10 gal/A air	12-24 oz/A 10 gal/A air	Early bloom (green tip)		7-10 day intervals through mid-June
	Cherries	Brown Rot Blossom Blight (<i>Monilinia</i>)			Early popcorn stage	Blossom Blight - Full bloom or 10 days later with non - Benzimidazole fungicide Powdery Mildew - Full bloom or 10 days later. Use a non- Benzimidazole fungicide at shuck fall and again 14 days later. Cherry Leaf spot - 10-14 day intervals; one application 2-3 weeks after harvest.		
		Powdery Mildew Cherry Leaf spot (<i>Mycosphaerella</i>)			21 to 3 days before harvest			
		Fruit Brown Rot						
	Strawberries	Gray Mold (<i>Botrytis</i>) Powdery Mildew Leaf Scorch Leaf Blight <i>Mycosphaerella</i> Leaf spot	80 oz (5 lbs)	8-16 oz/A (0.5-1 lb/A) 10 gal/A air	16 oz/A at 10% bloom and at full bloom	8 oz/A at 10-14 day intervals		0 days 5 PPM
		Anthracnose			16 oz (1 lb)/A 10 gal/A air	Plant establishment		7 day intervals
Sugarbeets	Cercospora Leaf spot		6-8 oz/A 5-10 gal/A air	When disease appears	14-21 day intervals	21 days 0.2 PPM Roots 15 PPM Tops		
Tomatoes	Gray Mold (<i>Botrytis</i>) Leaf Mold (<i>Cladosporium</i>) White Mold (<i>Sclerotinia</i>) Cercospora Leaf spot Phoma Leaf spot Target spot (<i>Corynespora</i>)	80 oz (5 lbs)	Field - 8-16 oz/A (0.5-1 lb/A) 5 gal/A air 50 gal/A ground	When disease appears	7-14 day intervals	0 days 5 PPM		
Turnips and Turnip Greens							See Brassica	

Crop	Disease	Limit/ Acre/ Crop	Rate, Minimum Gallons/A	Initial Application	Repeat Application	PHI Tolerance	Comments
Wheat	Strawbreaker Foot Rot (<i>Pseudocercospora</i>)	48 oz (3 lbs)	12-32 oz/A (0.75-2 lb/A) 5-10 gal/A air	At full tillering but before elongation		21 days 0.2 PPM grain 15 PPM straw	Where resistance is suspected or known to exist, do not use "Benlate" alone. Use in combination with non- Benzimidazole fungicide. Do not allow live stock to graze in treated field.
Wheat	Powdery Mildew (<i>Erysiphe</i>) Leaf Rust (<i>Puccinia</i>) Helminthosporium Leaf Blight		4-8 oz/A (0.25-0.5 lb/A) 15 gal/A -ground 5 gal/A -air	Boot stage to early heading	14 days later	21 days 0.2 PPM grain 15 PPM straw	For effective control of these diseases, tank mix with 16- 32 oz Manzate 200/A. Time applications to keep flag leaf free of disease. Do not use "Benlate" alone.
Wheat	Septoria Leaf and Glume Blotch Powdery Mildew (<i>Erysiphe</i>) Leaf Rust	48 oz (3 lbs)	4 oz/A (0.25 lb/A) 15 gal/A -ground 5 gal/A -air	Boot stage	14 days later		Tank mix with 2-4 oz(0.125-0.25 lb) Bayleton/A. Time applications to keep flag leaf free of disease.
Wheat, Oats, Barley, Rye (seed treatment)	Burnt, Common Bunt, Flag Smut, Loose Smut, Covered Smut, Oat Smut		1-2 oz/bushel seed	Dry or slurry seed treatment			Label treated seed "Do not use treated seed for food, feed, or oil purposes. This seed treated with "Benlate" Fungicide." Do not graze plants grown from treated seed.
Yams (PR only)	Anthrachnose (<i>Collectotrichum</i>)	224 oz (14 lbs)	16-32 oz/A (1-2 lb/A)	When disease appears	3-4 week intervals	90 days	

STORAGE AND DISPOSAL

Do not contaminate water, other pesticides, fertilizer, food or feed by storage or disposal.

STORAGE: Never allow "Benlate" to become wet during storage. This may lead to certain chemical changes which will reduce the effectiveness of "Benlate" as a fungicide. Keep container tightly closed when not in use. Store product in original container only.

PRODUCT DISPOSAL: Do not contaminate water, food or feed by storage or 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 into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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.

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