



# DuPont™ Fontelis®

FUNGICIDE



LICENSED

PERIOD 2015-2017 LIC. NO.

9200.208

GROUP 7 FUNGICIDE

## Suspension Concentrate

### Active Ingredient

Penthiopyrad .....

### Other Ingredients .....



DEPARTMENT OF AGRICULTURE  
STATE OF HAWAII

LICENSED

PERIOD 2012-2014 LIC. NO.

By Weight

20.4%

79.6%

TOTAL..... 100.0%

Contains 1.67 pounds of penthiopyrad per gallon of product

EPA Reg. No. 352-834

EPA Est. No. 352-GA-002

## KEEP OUT OF REACH OF CHILDREN CAUTION

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

### FIRST AID

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **For medical emergencies involving this product, call toll-free 1-800-441-3637.** See Label for Additional Precautions and Directions for Use.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. May be harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt
- Long pants
- Shoes and socks

See engineering control statements for additional requirements.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROL STATEMENTS:** 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.

### USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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.

### ENVIRONMENTAL HAZARDS

This product is toxic to fish, aquatic invertebrates, and oysters. For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff several weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of this chemical from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Refer to accompanying labeling for additional precautions and complete directions for use.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

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

# Net: 2.5 gal (320 fl oz)

Nonrefillable Container

E. I. du Pont de Nemours and Company, 1007 Market Street, Wilmington, DE 19898 U.S.A.

Made in U.S.A.

A01707594 (SL-1814A 030314 02-25-14)

## DIRECTIONS FOR USE

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

### 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 the label about personal protective equipment (PPE), and restricted-entry interval, and notification to workers (as applicable). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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 State or Tribal agency responsible for pesticide regulation.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 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:

- Coveralls
- Shoes and socks
- Chemical resistant gloves (made of any waterproof material)

DuPont™ FONTELIS® fungicide (i.e., FONTELIS®), a suspension concentrate containing penthiopyrad, is recommended for use as a spray for the control or suppression of many important listed plant diseases. FONTELIS® fungicide contains mineral oil in the formulation.

### Restrictions

- Use this product only in commercial and farm plantings.
- Do not use for home plantings.
- May be used in greenhouse production of tomatoes, peppers, and edible-peel cucurbits.

FONTELIS® must be used only in accordance with this label.

Do not formulate this product into other end-use products.

### PRODUCT INFORMATION

FONTELIS® is a broad-spectrum fungicide, recommended for control of foliar and soil-borne plant diseases, and has preventive, curative, and locally systemic activity. FONTELIS® must be applied in a regularly scheduled protective spray program in rotation with other fungicides. See directions below for specific crop/disease recommendations.

FONTELIS® can be applied with commonly used ground equipment, hose-end, pressurized, greenhouse and hand-held sprayers, air or chemigation equipment, except as otherwise directed, using sufficient water to obtain thorough coverage of plants. Thorough coverage of all foliage is essential for effective disease control. Maintain agitation during mixing and application to assure uniform product suspension.

### Application Volumes

- For conventional ground application, apply a minimum of 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of foliage.
- For air-assisted ground application, apply a minimum of 10 gallons per acre.
- For aerial application, apply a minimum of 2 gallons per acre (10 gallons per acre for trees and orchards).

**Rainfastness:** DuPont™ FONTELIS® rapidly penetrates into plant tissues and is rainfast within 1 hour after application.

### CULTIVAR/VARIETAL CROP SAFETY

Not all crops within a crop group, and not all varieties, cultivars or hybrids of crops, have been individually tested for crop safety. It is not possible to evaluate for crop safety all applications of FONTELIS® on all crops within a crop group, on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator.

### INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. FONTELIS® may be used as part of an IPM program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when disease forecasting models reach locally determined action levels. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine the appropriate management, cultural practice and treatment threshold levels for the specific crop, geography and diseases.

## RESISTANCE MANAGEMENT

Repeated use of products for control of specific plant pathogens may lead to selection of resistant strains of fungi and result in a reduction of disease control. Penthhiopyrad, the active ingredient in FONTELIS<sup>®</sup>, is one of EPA's Target Site of Action Group 7 fungicides (carboxamides). A disease management program that includes rotation and/or tank mixing with non-Group 7 fungicides is essential to reduce the risk of fungicide resistance development. If resistance to Group 7 fungicides is expected, then tank mix FONTELIS<sup>®</sup> with an effective fungicide with different mode-of-action. For guidance on a particular crop and disease control situation, consult your state extension specialist for official state recommendations.

## TANK MIXTURES

FONTELIS<sup>®</sup> fungicide contains mineral oil in the formulation. If tank mixing with oil sensitive products (for example, captan and sulfur) read and follow their label restrictions.

Always follow the tank mix instructions of the product label that is most restrictive.

The crop safety of all tank mixtures with FONTELIS<sup>®</sup> which may include physically compatible pesticides, fertilizers, adjuvants, and/or additives, has not been tested. When considering a tank mixture with FONTELIS<sup>®</sup> which is not specifically described on product labeling or in other DuPont product use instructions, it is important to understand crop safety. To test for crop safety prepare a small volume of the intended tank mixture, apply it to an area of the target crop as directed by both this and the tank mix partner product labels, and observe the treated crop to ensure that a phytotoxic response does not occur.

DuPont will not be responsible for any crop injury arising from the use of a tank mixture that is not specifically described on FONTELIS<sup>®</sup> product labeling or in other DuPont product use instruction.

Some materials including oils, surfactants, adjuvants and pesticide formulations when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase the potential for crop injury.

Always follow the tank mix instructions of the product label that is most restrictive. Consult a DuPont representative or local agricultural authorities for more information concerning tank mixtures.

## APPLICATION INFORMATION

### Mixing Instructions

1. Fill clean spray tank 1/4 - 1/2 full of water.
2. While agitating, add the required amount of DuPont™ FONTELIS<sup>®</sup>, continuing agitation until the product is completely dispersed.
3. Continue filling the tank, with agitation, following the sequence listed below in 'tank mixing sequence.'

### Adjuvants

FONTELIS<sup>®</sup> fungicide may be used with adjuvants, for example, nonionic surfactants, crop oils, methylated seed oils, and blends at typical agricultural use rates for these adjuvants.

### Physical Compatibility

FONTELIS<sup>®</sup> is physically compatible with many commonly used fungicides, liquid fertilizers, herbicides, insecticides, and biological control products. However, since the formulations of products are always changing, it is important to test the physical compatibility of desired tank mixes and check for undesirable physical effects, including settling out or flocculation. To determine the physical compatibility, add the proportions of the tank mix products and water to a small container, mix thoroughly and allow to stand for 20 minutes. If the combination remains mixed, or can be re-mixed readily, it may be considered physically compatible.

### Tank Mixing Sequence

When using in a tank mix, add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after addition of each product.

1. water-soluble bag
2. water-dispersible granules
3. wettable powders
4. water-based suspension concentrates (FONTELIS<sup>®</sup>)
5. water-soluble concentrates
6. oil-based suspension concentrates
7. emulsifiable concentrates
8. adjuvants, surfactants, and oils
9. soluble fertilizers
10. drift retardants

## CROP ROTATION

### The following list of crops and crop groups may be planted immediately after harvest:

Alfalfa, Brassica (cole) leafy vegetables crop group, bulb vegetables crop group (onion, garlic), canola, cereal grains crop group (barley, oats, rye, sorghum, wheat; except rice), corn (all types), cotton, cucurbit vegetables crop group (cucumber, melons, squash), fruiting vegetables crop group (tomato, pepper), leafy vegetables crop group (lettuce, celery, spinach), legume vegetables crop subgroup 6A (edible podded), legume vegetables crop subgroup 6B (succulent shelled), legume vegetables crop subgroup 6C (dried shelled), low-growing berries crop subgroup (strawberries, lowbush blueberries), peanuts, pome fruits, root vegetables crop subgroup (carrot, radish, turnip), soybean, stone fruits, sugarbeet, sunflower, tree nuts crop group (almond, filbert, pecan, pistachio), tuberous and corm vegetables and leaves crop subgroup (potato).

All other crops cannot be planted until 120 days after the last application of FONTELIS<sup>®</sup> fungicide.

**Table 1. DuPont™ FONTELIS® fungicide labeled Crop and Crop Groups, Pre-Harvest Intervals, Maximum Single Application Rates, and Total Rates allowed per year**

Crop, Crop group or subgroup with examples	Minimum Time from Application to Harvest (PHI days)	Maximum Rate per Acre per Application (fl oz product)	Maximum Product per Acre per Year (fl oz product)
<b>Alfalfa</b>	14 days	24 fl oz	48 fl oz
<b>Strawberry, lowbush blueberry*</b>	0 day	24 fl oz	72 fl oz
<b>Bulb vegetables (green, dry)</b> onion, garlic, chives	3 days	24 fl oz	72 fl oz
<b>Brassica (Cole) leafy vegetables</b> cabbage, broccoli, cauliflower, mustard greens	0 day	30 fl oz	72 fl oz
<b>Cucurbit vegetables</b> cucumber, cantaloupe, watermelon, squashes	1 day	16 fl oz	67 fl oz
<b>Fruiting vegetables</b> tomato, peppers	0 day	24 fl oz	72 fl oz
<b>Leafy vegetables</b> lettuce, celery, spinach	3 days	24 fl oz	72 fl oz
<b>Legume vegetables</b> bean, pea (subgroup 6A edible podded and subgroup 6B succulent shelled)	0 day	30 fl oz	72 fl oz
<b>Peanut*</b>	14 days	24 fl oz	72 fl oz
<b>Apple, pear</b>	28 days	20 fl oz	61 fl oz
<b>Root vegetables and leaves</b> (except sugarbeet) carrot, garden beet, radish, turnips	0 day	30 fl oz	61 fl oz
<b>Stone fruits</b> cherries, peaches, plums	0 day	20 fl oz	61 fl oz
<b>Almonds, filbert, pistachio, walnut</b>	14 days	20 fl oz	61 fl oz

\*Not for use in California.

#### **Soilborne/ Seedling Disease Control for Tomatoes, Snap Beans and Bulb Onions**

DuPont™ FONTELIS® can provide suppression or control of soilborne diseases when applied early in the growing season using specific application methods like in-furrow or band applications shortly after plant emergence.

For banded applications, apply FONTELIS® prior to infection as a directed spray to the soil, using single or multiple nozzles, adjusted to provide thorough coverage of the targeted foliage and surrounding soil surface. Band width should be limited to 6-8 inches or less.

For in-furrow application, apply FONTELIS® as an in-furrow spray in 3-15 gallons of water at planting. Adjust the spray pattern so the spray is directed into the furrow on the seed and surrounding soil. The spray pattern should be a 4- to 8-inch band that is applied to the seed just prior to being covered with soil.

For pre-plant incorporation, apply FONTELIS® to the soil in a band or broadcast spray. Incorporate the FONTELIS® to a depth of 1-2 inches using a rototiller, cultivator, rotary hoe, irrigation or similar methodology.

For drip application, FONTELIS® must be applied in a manner that ensures the product is in the root zone to provide effective control of target pests. FONTELIS® is most effective when it is applied so that the roots are at or near the site of application.

Manage irrigation so that significant quantities of FONTELIS® remain in the root zone.

1. Do not begin applications until after crop emergence in direct seeded crops.
2. Do not make applications if soil moisture is below the level required for active plant growth.
3. This product must be applied uniformly in the root zone or poor performance may result. Drip tape or emitters must be located within or directly adjacent to the root zone.
4. The drip system must be properly designed, free of leaks, and operated in a manner that provides uniform application of water throughout the field.

## In-Furrow and Banded Application Rates

Rate per 1000 row feet		Product per Acre (fl oz) <sup>a</sup>					
fl oz prod/ 1000 ft row	22" rows	30" rows	32" rows	34" rows	36" rows	38" rows	40" rows
1.2	28.6 <sup>b</sup>	20.9	19.6	18.5	17.4	16.5	15.7
1.6	-	27.9 <sup>c</sup>	26.1 <sup>d</sup>	24.6 <sup>e</sup>	23.0	22.0	21.1

<sup>a</sup> Consult the maximum rate per acre allowed for the crop, and do not exceed that rate when using this application method.

<sup>b</sup> In 22 inch rows, the highest rate for crops with 24 fl oz/acre maximums is 1.0 fl oz/1000 ft row, and for crops with 30 fl oz/acre maximums is 1.26 fl oz/1000 ft row.

<sup>c</sup> In 30 inch rows, the highest rate for tomatoes and bulb onions with 24 fl oz/acre maximum is 1.38 fl oz/1000 ft row.

<sup>d</sup> In 32 inch rows, the highest rate for tomatoes and bulb onions with 24 fl oz/acre maximum is 1.47 fl oz/1000 ft row.

<sup>e</sup> In 34 inch rows, the highest rate for tomatoes and bulb onions with 24 fl oz/acre maximum is 1.56 fl oz/1000 ft row.

## USE RATES AND APPLICATION INSTRUCTIONS

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
Alfalfa	Powdery mildew* ( <i>Erysiphe pisi</i> , <i>Leveillula taurica</i> ) Stemphylium leafspot ( <i>Stemphylium botryosum</i> )	14 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
	Sclerotinia crown and stem rot* ( <i>Sclerotinia</i> spp.)	16 to 24 fl oz	

Make no more than 2 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 14 days. Do not exceed 48 fl oz/acre per year.

Strawberry (except Clancy, Jewel, and L'Amour varieties)	Botrytis fruit rot, gray mold ( <i>Botrytis cinerea</i> ) Powdery mildew ( <i>Sphaerotheca</i> spp.)	16 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. <b>NOTE.</b> Not all matted row varieties have been tested and foliar reddening may occur in some varieties under certain environmental conditions. Tank mixtures and/or alternating applications of captan or thiram may cause speckling on the lower surface of strawberry leaves under certain environmental conditions. Discontinue applications with captan and/or thiram if signs of a crop response appear. In observed speckling situations, no impact to leaf growth, flowering, or fruiting were noted. Not all varieties have been tested.
Lowbush blueberry*	Botrytis fruit rot, gray mold ( <i>Botrytis cinerea</i> ) Brown leaf spot ( <i>Septoria</i> spp.) Leaf rust ( <i>Thekospora minima</i> ) Powdery Mildew ( <i>Microsphaera vaccinii</i> ) <b>Disease suppression</b> Mummy berry ( <i>Monilinia vaccinicorymbosi</i> )	16 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.

Make no more than 2 sequential applications of FONTELIS® before switching to a fungicide with a different mode of action. For control of gray mold where resistance to Group 7 fungicides is suspected, FONTELIS® should be tank mixed with a fungicide with a different mode-of-action that is effective for gray mold control. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 72 fl oz/acre per year.

\* Not for use in California.

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
<b>Bulb vegetables (green, dry)</b> (except daylily, bulb; elegans hosta; fritillaria, bulb; fritillaria, leaves; lily, bulb) Chive, fresh leaves; chive, Chinese, fresh leaves; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; kurrat; lady's leek; leek; leek, wild; onion, Beltsville bunching; onion, bulb; onion, Chinese, bulb; onion, fresh; onion, green; onion, macrostem; onion, pearl; onion, potato, bulb; onion, tree, tops; onion, Welsh, tops; shallot, bulb; shallot, fresh leaves	Botrytis blight and neck rot ( <i>Botrytis</i> spp.) Garlic rust ( <i>Puccinia allii</i> ) Powdery mildew* ( <i>Leveillula taurica</i> , <i>Oidiopsis</i> spp.) Purple blotch ( <i>Alternaria porri</i> ) Stemphylium leaf blight and stem rot* ( <i>Stemphylium vesicarium</i> ) White rot ( <i>Sclerotium cepivorum</i> )	16 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
Bulb Onion	<b>Soil-borne Diseases</b> Rhizoctonia seedling blight/rot ( <i>Rhizoctonia</i> spp) White Rot <i>Sclerotium cepivorum</i>	1.2 to 1.6 fl oz/1000 row-ft	Make at-plant, pre-plant incorporated, in-furrow, transplant drench, or drip applications. Maximum rate per acre per application is 24 fl oz. See soil-borne disease section instructions. For White Rot control apply 16- 24 fl oz/acre in a 4-6 inch band in furrow at planting.
Make no more than 2 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 3 days. Do not exceed 72 fl oz/acre per year.			

<b>Brassica (Cole) leafy vegetables</b> <b>Head and Stem Brassica:</b> Broccoli; broccoli, Chinese (gai lon); brussels sprouts; cabbage; cabbage, Chinese (napa); cabbage, Chinese mustard (gai choy); cauliflower; cavalo broccolo; kohlrabi <b>Leafy Brassica Greens:</b> Broccoli raab (rapini); cabbage, Chinese (bok choy); collards; kale; mizuna; mustard greens; mustard spinach; rape greens; turnip greens	Alternaria, black spot, leaf spot ( <i>Alternaria</i> spp.) Gray mold* ( <i>Botrytis cinerea</i> ) Pin rot ( <i>Alternaria</i> spp.) Powdery mildew ( <i>Erysiphe cruciferarum</i> , <i>Erysiphe polygoni</i> )	14 to 30 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
	Sclerotinia stem rot ( <i>Sclerotinia</i> spp.)	16 to 30 fl oz	

Make no more than 2 sequential applications of FONTELIS® before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 72 fl oz/acre per year.

\* Not for use in California.

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**USE RATES AND APPLICATION INSTRUCTIONS** (continued)

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
<b>Cucurbit vegetables</b> Chayote (fruit); Chinese waxgourd (Chinese preserving melon); citron melon; cucumber (field and greenhouse); gherkin; gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); <i>Momordica</i> spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber); muskmelon (includes cantaloupe - other examples in footnote (1)); pumpkin; squash, summer (field and greenhouse); squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon	Alternaria leaf spot and blight* ( <i>Alternaria</i> spp.) Gray mold* ( <i>Botrytis cinerea</i> ) Gummy stem blight* ( <i>Didymella bryoniae</i> ) Powdery mildew ( <i>Sphaerotheca fuliginea</i> , <i>Erysiphe cichoracearum</i> )	12 to 16 fl oz	Begin applications prior to disease development and continue on a 5- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. For disease control in greenhouse cucurbits, use FONTELIS® at a rate range of 0.375 - 0.5 fl oz of product (0.75 - 1 table-spoon) per gallon of spray per 1360 sq ft. These rates equal field rates of 12-16 fl oz/acre.
	Sclerotinia stem rot* ( <i>Sclerotinia sclerotiorum</i> )	16 fl oz	

Make no more than 2 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. For control of Gummy stem blight where Group 7 fungicide resistance is suspected, tank mix FONTELIS® with a minimum of 1.5 lb active chlorothalonil/acre. Minimum time from application to harvest (PHI) is 1 day. Do not exceed 67 fl oz/acre per year.

(1) Muskmelon: includes true cantaloupe, cantaloupe, casaba, Santa Claus melon, crenshaw melon, honeydew melon, honey balls, Persian melon, golden pershaw melon, mango melon, pineapple melon, snake melon, and other varieties and/or hybrids of these.

<b>Fruiting vegetables</b> African eggplant; bush tomato; bell pepper (field and greenhouse); cocona; currant tomato; eggplant; garden huckleberry; goji berry; groundcherry; martynia; naranjilla; okra; pea eggplant; pepino; nonbell pepper (field and greenhouse); roselle; scarlet eggplant; sunberry; tomatillo; tomato (field and greenhouse); tree tomato	Alternaria blights and leaf spots ( <i>Alternaria</i> spp.) Black mold ( <i>Alternaria alternata</i> ) Early blight ( <i>Alternaria solani</i> ) Gray mold* ( <i>Botrytis cinerea</i> ) Powdery mildew ( <i>Leveillula taurica</i> ) Basal Stem Rot ( <i>Sclerotium rolfsii</i> ) Septoria leaf spot* ( <i>Septoria</i> spp.) Target spot ( <i>Corynespora cassiicola</i> )	16 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. For disease control in greenhouse peppers and tomatoes, use FONTELIS® at a rate range of 0.5 - 0.75 fl oz of product (1 - 1.5 tablespoons) per gallon of spray per 1360 sq ft. These rates equal field rates of 16-24 fl oz/acre. Basal Stem Rot: apply initial application as a directed spray to the base of the tomato plant, 5-10 days after transplanting. Follow with a second application 14 days later. Continue applications with an effective fungicide with a different mode of action.
	<b>Disease suppression:</b> Anthracnose ( <i>Colletotrichum</i> spp.)	24 fl oz	
<b>Tomatoes</b>	<b>Soil-borne Diseases</b> Rhizoctonia seedling blight/rot ( <i>Rhizoctonia</i> spp.) Southern blight ( <i>Sclerotium rolfsii</i> )	1.0 - 1.6 fl oz/1000 row-ft	Make at-plant, pre-plant incorporated, in-furrow, transplant drench, or drip applications. Maximum rate per acre per application is 24 fl oz. See soil-borne disease section instructions.

Make no more than 2 sequential applications of FONTELIS® before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 72 fl oz/acre per year.

\* Not for use in California.

(continued)

**USE RATES AND APPLICATION INSTRUCTIONS** (continued)

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
<b>Leafy vegetables</b> Amaranth (Chinese spinach); arugula (roquette); cardoon; celery; celery, Chinese; celtuce; chervil; chrysanthemum, edible-leaved; chrysanthemum, garland; corn salad; cress, garden; cress, upland; dandelion; dock (sorrel); endive (escarole); fennel, Florence; lettuce, head and leaf; orach; parsley; purslane, garden; purslane, winter; radicchio (red chicory); rhubarb; spinach; spinach, New Zealand; spinach, vine; Swiss chard	Alternaria leaf spot* ( <i>Alternaria sonchi</i> ) Cercospora leaf spot ( <i>Cercospora</i> spp.) Early blight ( <i>Cercospora apii</i> ) Gray mold* ( <i>Botrytis cinerea</i> ) Late blight ( <i>Septoria apicola</i> ) Powdery mildew ( <i>Erysiphe cichoracearum</i> ) Rust* ( <i>Puccinia</i> spp.) Septoria leaf spot* ( <i>Septoria</i> spp.)	14 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
	Lettuce drop ( <i>Sclerotinia minor</i> , <i>Sclerotinia sclerotiorum</i> )	16 to 24 fl oz	
Make no more than 2 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 3 days. Do not exceed 72 fl oz/acre per year.			

<b>Legume vegetables and foliage</b> <b>Subgroup 6A edible podded</b> Bean ( <i>Phaseolus</i> spp) includes runner bean, snap bean, wax bean; bean ( <i>Vigna</i> spp) includes asparagus bean, Chinese longbean, moth bean, yardlong bean; jackbean; pea ( <i>Pisum</i> spp) includes dwarf pea, edible-pod pea, snow pea, sugar snap pea; pigeon pea; soybean (immature seed); sword bean <b>Subgroup 6B succulent shelled</b> Bean ( <i>Phaseolus</i> spp) includes lima bean (green); broad bean (succulent); bean ( <i>Vigna</i> spp) includes blackeyed pea, cowpea, southern pea; pea ( <i>Pisum</i> spp) includes English pea, garden pea, green pea; pigeon pea	Alternaria blight, leaf spot* ( <i>Alternaria</i> spp.) Angular leaf spot* ( <i>Phaeoisariopsis griseola</i> ) Anthracnose* ( <i>Colletotrichum lindemuthianum</i> ) Ascochyta blight, leaf spot ( <i>Ascochyta</i> spp.) Cercospora leaf spot* ( <i>Cercospora</i> spp.) Gray mold* ( <i>Botrytis cinerea</i> ) Powdery mildew ( <i>Erysiphe</i> spp.) Rust* ( <i>Uromyces</i> spp., <i>Phakopsora pachyrhizi</i> ) Septoria blotch* ( <i>Septoria</i> spp.)	14 to 30 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
	Sclerotinia rot, white mold ( <i>Sclerotinia</i> spp.)	16 to 30 fl oz	
Snap beans	Soil-borne diseases Damping off, seedling rot ( <i>Rhizoctonia solani</i> )	1.2 to 1.6 fl oz /1000 row-ft	Make at-plant, pre-plant incorporated, in-furrow, transplant drench, or drip applications. Maximum rate per acre per application is 30 fl oz. See soil-borne disease section instructions.

Make no more than 2 sequential applications of FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 72 fl oz/acre per year.

\* Not for use in California.

(continued)

USE RATES AND APPLICATION INSTRUCTIONS (continued)

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
Peanut*	Alternaria leaf spot ( <i>Alternaria</i> spp.) Early leaf spot ( <i>Cercospora arachidicola</i> ) Late leaf spot ( <i>Cercosporidium personatum</i> ) Leaf scorch ( <i>Leptosphaerulina crassiacca</i> ) Pepper spot ( <i>Leptosphaerulina crassiacca</i> ) Rhizoctonia pod and stem blight, limb rot ( <i>Rhizoctonia solani</i> ) Rust ( <i>Puccinia arachidis</i> ) Southern stem rot, blight, white mold ( <i>Sclerotium rolfsii</i> )	16 to 24 fl oz	Begin applications prior to disease development and continue on a 14- to 21-day interval. Use higher rate and shorter interval when disease pressure is high.
	Sclerotinia blight ( <i>Sclerotinia</i> spp.) Web blotch ( <i>Phoma arachidicola</i> )	16 to 24 fl oz	
	<b>Disease suppression</b> Cylindrocladium black rot ( <i>Cylindrocladium crotalariae</i> )	16 to 24 fl oz	

Make no more than 3 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 14 days. Do not exceed 72 fl oz/acre per year.

Apple; pear	Alternaria leaf spots* ( <i>Alternaria</i> spp.) Scab, apple or pear ( <i>Venturia inaequalis</i> (apple), <i>Venturia pirina</i> (pear)) Powdery mildew ( <i>Podosphaera leucotricha</i> ) Rusts* ( <i>Gymnosporangium</i> spp.)	16 to 20 fl oz	Begin applications prior to disease development and continue on a 7- to 21-day interval. Use higher rate and shorter interval when disease pressure is high. - Application interval for scab is 7 to 10 days. For apple scab, a reliable disease forecasting system should be used. <b>NOTE:</b> Do NOT tank-mix FONTELIS® with thinning agents.
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Make no more than 2 sequential applications of FONTELIS® before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 28 days. Do not exceed 61 fl oz/acre per year.

\* Not for use in California.

(continued)

USE RATES AND APPLICATION INSTRUCTIONS (continued)

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
<b>Root vegetables and leaves</b> (except sugarbeet) Beet, garden; burdock, edible; carrot; celeriac; chervil, turnip-rooted; chicory; ginseng; horseradish; parsley, turnip-rooted; parsnip; radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; turnip	Alternaria leaf spot, blight and brown spot ( <i>Alternaria</i> spp.) Cercospora leaf spot ( <i>Cercospora</i> spp.) Cylindrocarpon root rot ( <i>Cylindrocarpon destructans</i> ) Gray mold* ( <i>Botrytis cinerea</i> ) Powdery mildew ( <i>Erysiphe</i> spp.) Southern blight* ( <i>Sclerotium rolfsii</i> ) Rust* ( <i>Uromyces</i> spp.) White mold* ( <i>Sclerotinia</i> spp.)	16 to 30 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
Make no more than 2 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 61 fl oz/acre per year.			

<b>Stone fruits</b> Apricot; cherry, sweet; cherry, tart; nectarine; peach; plum; plum, Chickasaw; plum, Damson; plum, Japanese; plumcot; prune (fresh)	Alternaria rot* ( <i>Alternaria</i> spp.) Botrytis rots ( <i>Botrytis cinerea</i> ) Brown rot blossom blight and fruit rot ( <i>Monilinia</i> spp.) Green fruit rot* ( <i>Sclerotinia sclerotiorum</i> ) Powdery mildew ( <i>Podosphaera clandestina</i> , <i>Sphaerotheca pannosa</i> ) Rust ( <i>Tranzschelia discolor</i> ) Scab ( <i>Cladosporium carpophilum</i> ) Shot hole ( <i>Wilsonomyces carpophilus</i> )	14 to 20 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
	<b>Disease Suppression:</b> Cherry leaf spot* ( <i>Blumeriella jaapii</i> )	14 to 20 fl oz	
Make no more than 2 sequential applications of FONTELIS® before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 61 fl oz/acre per year.			

\* Not for use in California.

(continued)

USE RATES AND APPLICATION INSTRUCTIONS (continued)

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
Almond; filbert (hazelnut); walnut, black and English; pistachio	Alternaria leaf spot, blight ( <i>Alternaria</i> spp.) Anthracnose ( <i>Colletotrichum</i> spp.) Brown rot blossom blight and fruit rot, green fruit rot (jacket rot) ( <i>Monilinia</i> spp.) Botrytis rots, blights, green fruit rot (jacket rot) ( <i>Botrytis cinerea</i> ) Panicle and shoot blight ( <i>Botryosphaeria dothidea</i> ) Powdery mildew ( <i>Podosphaera tridactyla</i> var. <i>tridactyla</i> , <i>Sphaerotheca pannosa</i> , <i>Phyllactinia angulata</i> , <i>Phyllactinia guttata</i> f. sp. <i>coryli</i> , <i>Microsphaera</i> spp., <i>Oidium</i> spp.) Rust ( <i>Tranzschelia discolor</i> , <i>Uromyces</i> spp., <i>Pucciniastrum coryli</i> ) Sclerotinia shoot blight, green fruit rot (jacket rot)* ( <i>Sclerotinia sclerotiorum</i> ) Seedling blight* ( <i>Rhizoctonia solani</i> ) Septoria leaf spot* ( <i>Septoria</i> spp.) Shot-hole ( <i>Wilsonomyces carpophilus</i> )	14 to 20 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. For suppression of scab where Group 7 fungicide resistance is suspected, tank mix DuPont™ FONTELIS® with an effective fungicide with a different mode-of-action.
	<b>Disease Suppression:</b> Scab ( <i>Cladosporium carpophilum</i> )	14 to 20 fl oz	
Make no more than 2 sequential applications of FONTELIS® fungicide before switching to a fungicide with a different mode of action. For suppression of scab where Group 7 fungicide resistance is suspected, tank mix FONTELIS® with an effective fungicide with a different mode-of-action. Minimum time from application to harvest (PHI) is 14 days. Do not exceed 61 fl oz/acre per year.			

\*Not for use in California.

**Chemigation**

Apply DuPont™ FONTELIS® fungicide only through sprinkler irrigation systems (such as center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems).

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform 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.

**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.

- 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.

#### ***Specific Instructions for Sprinkler Irrigation Systems:***

- 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.
- 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 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.
- 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.
- Good agitation is required in the injection tank.
- In moving systems, apply specified dosage of DuPont™ FONTELIS® fungicide as a continuous injection. In nonmoving systems inject FONTELIS® for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage.
- Mix the amount of FONTELIS® 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.
- Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all FONTELIS® is flushed from system.

## **SPRAY DRIFT MANAGEMENT**

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

### ***IMPORTANCE OF DROPLET SIZE***

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

### ***CONTROLLING DROPLET SIZE - GROUND APPLICATION***

- **Nozzle Type** - Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- **Flow Rate/Orifice Size** - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

### ***CONTROLLING DROPLET SIZE – AIRCRAFT***

- **Nozzle Type** - Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- **Number of Nozzles** - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum
- **Nozzle Orientation** - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- **Pressure** – Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential

## **BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT**

- Boom Length (aircraft) - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- Application Height (ground) - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

## **WIND**

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.** Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

## **TEMPERATURE AND HUMIDITY**

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

## **SURFACE TEMPERATURE INVERSIONS**

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

## **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

## **AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

## **SENSITIVE AREAS**

This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

## **DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers and Distributors of Agrotechnology

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Keep container closed when not in use. Always store pesticides in the original container only, away from other pesticides, food, pet food, feed, seed, fertilizers, and veterinary supplies. If a leaky container must be contained within another, mark the outer container to identify the contents. Storage areas must be locked and secure from vandalism, with precautionary signs posted. The storage area must be dry, well-lit, and well-ventilated. Keep pesticide storage areas clean. Clean up any spills promptly. Protect pesticide containers from extreme heat and cold. Store herbicides, insecticides and fungicides in separate areas within the storage unit. Place liquid formulations on lower shelves and dry formulations above. Maintaining a spill kit and fire extinguisher on hand and having emergency phone numbers posted will allow you to be prepared for emergencies. If spill cleanup PPE is stored nearby, but outside the pesticide storage area, it will be accessible when needed.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

### CONTAINER HANDLING:

**Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.**

**Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

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

The DuPont Oval Logo, DuPont™, and FONTELIS® are trademarks or registered trademarks of E. I. du Pont de Nemours and Company.

## **LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read this Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded. It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont.

These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants.

**WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.**

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

To the extent consistent with applicable law that allows such requirement, DuPont or its Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise, or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

For product information call: 1-888-6-DUPONT [1-888-638-7668]

Internet address: [www.cropprotection.dupont.com](http://www.cropprotection.dupont.com)

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## Notes

# DuPont™ Fontelis®

FUNGICIDE



OPEN HERE ▲

GROUP 7 FUNGICIDE

## Suspension Concentrate

### Active Ingredient

Penthiopyrad ..... 20.4%

### Other Ingredients

..... 79.6%  
TOTAL ..... 100.0%

Contains 1.67 pounds of penthiopyrad per gallon of product

EPA Reg. No. 352-834

EPA Est. No. 352-GA-002

## KEEP OUT OF REACH OF CHILDREN CAUTION

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

### FIRST AID

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **For medical emergencies involving this product, call toll-free 1-800-441-3637.** See Label for Additional Precautions and Directions for Use.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. May be harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt
- Long pants
- Shoes and socks

See engineering control statements for additional requirements.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROL STATEMENTS:** 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.

### USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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.

### ENVIRONMENTAL HAZARDS

This product is toxic to fish, aquatic invertebrates, and oysters. For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff several weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of this chemical from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Refer to accompanying labeling for additional precautions and complete directions for use.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

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

**Net: 2.5 gal (320 fl oz)**  
Nonrefillable Container

E. I. du Pont de Nemours and Company, 1007 Market Street, Wilmington, DE 19898 U.S.A.

A01707594 (SL-1814A 030314 02-25-14)

Made in U.S.A.



# SUPPLEMENTAL LABELING

## DuPont Crop Protection

## DUPONT™ FONTELIS® fungicide



LICENSED

PERIOD 2012-2014 LIC. NO.

## DUPONT™ FONTELIS®

### Fungicide

EPA Reg. No. 352-834



LICENSED

PERIOD 2015-2017 LIC. NO.

9200.208

This supplemental labeling expires on December 31, 2017 and must not be distributed or used after that date.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. FONTELIS® fungicide must only be used in accordance with the directions in this label.

### USE RATES AND APPLICATION TIMINGS

(See pages two-nine attached)

### IMPORTANT

**BEFORE USING DUPONT™ FONTELIS® FUNGICIDE, READ AND FOLLOW ALL APPLICABLE DIRECTIONS, RESTRICTIONS, AND PRECAUTIONS ON THE EPA-REGISTERED LABEL.**

DuPont™ FONTELIS® fungicide (i.e., FONTELIS®), a suspension concentrate containing penthiopyrad, is recommended for use as a spray for the control or suppression of many important listed plant diseases. FONTELIS® fungicide contains mineral oil in the formulation.

This bulletin contains new or supplemental instructions for use of this product which do not appear on the package label. Follow the instructions carefully.

This labeling must be in the possession of the user at the time of pesticide application.

Read the Limitation of Warranty and Liability on the Section 3 Federal Product labeling before buying or using FONTELIS®. If terms are not acceptable, return the unopened package at once to Seller for full refund of purchase price paid. Otherwise, use by Buyer or any other User constitutes acceptance of the terms of the Limitation of Warranty and Liability on the Section 3 Federal product label.

### TANK MIXTURES

FONTELIS® fungicide contains mineral oil in the formulation. If tank mixing with oil sensitive products (for example, captan and sulfur) read and follow their label restrictions.

Always follow the tank mix instructions of the product label that is most restrictive.

The crop safety of all tank mixtures with FONTELIS® which may include physically compatible pesticides, fertilizers, adjuvants, and/or additives, has not been tested. When considering a tank mixture with FONTELIS® which is not specifically described on product labeling or in other DuPont product use instructions, it is important to understand crop safety. To test for crop safety prepare a small volume of the intended tank mixture, apply it to an area of the target crop as directed by both this and the tank mix partner product labels, and observe the treated crop to ensure that a phytotoxic response does not occur.

DuPont will not be responsible for any crop injury arising from the use of a tank mixture that is not specifically described on FONTELIS® product labeling or in other DuPont product use instruction.

Some materials including oils, surfactants, adjuvants and pesticide formulations when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase the potential for crop injury.

Always follow the tank mix instructions of the product label that is the most restrictive. Consult a DuPont representative or local agricultural authorities for more information concerning tank mixtures.

## **APPLICATION INFORMATION**

### **Mixing Instructions**

1. Fill clean spray tank 1/4 - 1/2 full of water.
2. While agitating, add the required amount of DuPont™ FONTELIS®, continuing agitation until the product is completely dispersed.
3. Continue filling the tank, with agitation, following the sequence listed below in 'tank mixing sequence.'

### **Adjuvants**

FONTELIS® fungicide may be used with adjuvants, for example, nonionic surfactants, crop oils, methylated seed oils, and blends at typical agricultural use rates for these adjuvants.

### **Physical Compatibility**

FONTELIS® is physically compatible with many commonly used fungicides, liquid fertilizers, herbicides, insecticides, and biological control products. However, since the formulations of products are always changing, it is important to test the physical compatibility of desired tank mixes and check for undesirable physical effects, including settling out or flocculation. To determine the physical compatibility, add the proportions of the tank mix products and water to a small container, mix thoroughly and allow to stand for 20 minutes. If the combination remains mixed, or can be re-mixed readily, it may be considered physically compatible.

### **Tank Mixing Sequence**

When using in a tank mix, add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after addition of each product.

1. water-soluble bag
2. water-dispersible granules
3. wettable powders
4. water-based suspension concentrates (FONTELIS®)
5. water-soluble concentrates
6. oil-based suspension concentrates
7. emulsifiable concentrates
8. adjuvants, surfactants, and oils
9. soluble fertilizers
10. drift retardants

**Soilborne/Seedling Disease Control for Tomatoes, Snap Beans and Bulb Onions**

DuPont™ FONTELIS® can provide suppression or control of soilborne diseases when applied early in the growing season using specific application methods like in-furrow or band applications shortly after plant emergence.

For banded applications, apply FONTELIS® prior to infection as a directed spray to the soil, using single or multiple nozzles, adjusted to provide thorough coverage of the targeted foliage and surrounding soil surface. Band width should be limited to 6-8 inches or less.

For in-furrow application, apply FONTELIS® as an in-furrow spray in 3-15 gallons of water at planting. Adjust the spray pattern so the spray is directed into the furrow on the seed and surrounding soil. The spray pattern should be a 4- to 8-inch band that is applied to the seed just prior to being covered with soil.

For pre-plant incorporation, apply FONTELIS® to the soil in a band or broadcast spray. Incorporate the FONTELIS® to a depth of 1-2 inches using a rototiller, cultivator, rotary hoe, irrigation or similar methodology.

For drip application, FONTELIS® must be applied in a manner that ensures the product is in the root zone to provide effective control of target pests. FONTELIS® is most effective when it is applied so that the roots are at or near the site of application.

Manage irrigation so that significant quantities of FONTELIS® remain in the root zone.

1. Do not begin applications until after crop emergence in direct seeded crops.
2. Do not make applications if soil moisture is below the level required for active plant growth.
3. This product must be applied uniformly in the root zone or poor performance may result. Drip tape or emitters must be located within or directly adjacent to the root zone.
4. The drip system must be properly designed, free of leaks, and operated in a manner that provides uniform application of water throughout the field.

**In-Furrow and Banded Application Rates**

Rate per 1000 row feet	Product per Acre (fl oz) <sup>a</sup>						
	22" rows	30" rows	32" rows	34" rows	36" rows	38" rows	40" rows
1.2	28.6 <sup>b</sup>	20.9	19.6	18.5	17.4	16.5	15.7
1.6	-	27.9 <sup>c</sup>	26.1 <sup>d</sup>	24.6 <sup>e</sup>	23.0	22.0	21.1

<sup>a</sup> Consult the maximum rate per acre allowed for the crop, and do not exceed that rate when using this application method.

<sup>b</sup> in 22 inch rows, the highest rate for crops with 24 fl oz/acre maximums is 1.0 fl oz/1000 ft row, and for crops with 30 fl oz/acre maximums is 1.26 fl oz/1000 ft row.

<sup>c</sup> in 30 inch rows, the highest rate for tomatoes and bulb onions with 24 fl oz/acre maximum is 1.38 fl oz/1000 ft row.

<sup>d</sup> in 32 inch rows, the highest rate for tomatoes and bulb onions with 24 fl oz/acre maximum is 1.47 fl oz/1000 ft row.

<sup>e</sup> in 34 inch rows, the highest rate for tomatoes and bulb onions with 24 fl oz/acre maximum is 1.56 fl oz/1000 ft row.

## USE RATES AND APPLICATION INSTRUCTIONS

(In addition to those on the DuPont™ FONTELIS® product packaging)

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
Bulb Onion	<b>Soil-borne Diseases</b> Rhizoctonia seedling blight/ rot ( <i>Rhizoctonia</i> spp) White Rot <i>Sclerotium cepivorum</i>	1.2 to 1.6 fl oz/1000 row-ft	Make at-plant, pre-plant incorporated, in-furrow, transplant drench, or drip applications. Maximum rate per acre per application is 24 fl oz. See soil-borne disease section instructions.  For White Rot control apply 16-24 fl oz/acre in a 4-6 inch band in furrow at planting.

Make no more than 2 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 3 days. Do not exceed 72 fl oz/acre per year.

<b>Cucurbit vegetables</b> muskmelon (includes cantaloupe - other examples in footnote (1))	Alternaria leaf spot and blight* ( <i>Alternaria</i> spp.) Gray mold* ( <i>Botrytis cinerea</i> ) Gummy stem blight* ( <i>Didymella bryoniae</i> ) Powdery mildew ( <i>Sphaerotheca fuliginea</i> , <i>Erysiphe cichoracearum</i> )	12 to 16 fl oz	Begin applications prior to disease development and continue on a 5- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.  For disease control in greenhouse cucurbits, use FONTELIS® at a rate range of 0.375 - 0.5 fl oz of product (0.75 - 1 tablespoon) per gallon of spray per 1360 sq ft. These rates equal field rates of 12-16 fl oz/acre.
	Sclerotinia stem rot* ( <i>Sclerotinia sclerotiorum</i> )	16 fl oz	

Make no more than 2 sequential applications of FONTELIS® fungicide before switching to a fungicide with a different mode of action.

For control of Gummy stem blight where Group 7 fungicide resistance is suspected, tank mix FONTELIS® with a minimum of 1.5 lb active chlorothalonil/acre. Minimum time from application to harvest (PHI) is 1 day. Do not exceed 67 fl oz/acre per year.

(1) Muskmelon: includes true cantaloupe, cantaloupe, casaba, Santa Claus melon, crenshaw melon, honeydew melon, honey balls, Persian melon, golden pershaw melon, mango melon, pineapple melon, snake melon, and other varieties and/or hybrids of these.

<b>Fruiting vegetables</b> African eggplant; bush tomato; bell pepper (field and greenhouse); cocona; currant tomato; eggplant; garden huckleberry; goji berry; groundcherry; martynia; naranjilla; okra; pea eggplant; pepino; nonbell pepper (field and greenhouse); roselle; scarlet eggplant; sunberry; tomatillo; tomato (field and greenhouse); tree tomato	Early blight ( <i>Alternaria solani</i> ) Target spot ( <i>Corynespora cassiicola</i> )	16 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
	<b>Disease suppression:</b> Anthracnose ( <i>Colletotrichum</i> spp.)	24 fl oz	For disease control in greenhouse peppers and tomatoes, use FONTELIS® at a rate range of 0.5 - 0.75 fl oz of product (1 - 1.5 tablespoons) per gallon of spray per 1360 sq ft. These rates equal field rates of 16-24 fl oz/acre.  Basal Stem Rot: apply initial application as a directed spray to the base of the tomato plant, 5-10 days after transplanting. Follow with a second application 14 days later. Continue applications with an effective fungicide with a different mode of action.

Make no more than 2 sequential applications of FONTELIS® before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 72 fl oz/acre per year.

\*Not for use in California.

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
<b>Leafy vegetables</b> Amaranth (Chinese spinach); arugula (roquette); cardoon; celery; celery, Chinese; celtuce; chervil; chrysanthemum, edible-leaved; chrysanthemum, garland; corn salad; cress, garden; cress, upland; dandelion; dock (sorrel); endive (escarole); fennel, Florence; lettuce, head and leaf; orach; parsley; purslane, garden; purslane, winter; radicchio (red chicory); rhubarb; spinach; spinach, New Zealand; spinach, vine; Swiss chard	Cercospora leaf spot ( <i>Cercospora</i> spp.) Early blight ( <i>Cercospora apii</i> )	14 to 24 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.

Make no more than 2 sequential applications of DuPont™ FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 3 days. Do not exceed 72 fl oz/acre per year.

<b>Legume vegetables and foliage</b> <b>Subgroup 6A edible podded</b> Bean ( <i>Phaseolus</i> spp) includes runner bean, snap bean, wax bean; bean ( <i>Vigna</i> spp) includes asparagus bean, Chinese long-bean, moth bean, yardlong bean; jackbean; pea ( <i>Pisum</i> spp) includes dwarf pea, edible-pod pea, snow pea, sugar snap pea; pigeon pea; soybean (immature seed); sword bean <b>Subgroup 6B succulent shelled</b> Bean ( <i>Phaseolus</i> spp) includes lima bean (green); broad bean (succulent); bean ( <i>Vigna</i> spp) includes blackeyed pea, cowpea, southern pea; pea ( <i>Pisum</i> spp) includes English pea, garden pea, green pea; pigeon pea	Ascochyta blight, leaf spot ( <i>Ascochyta</i> spp.)	14 to 30 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
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Make no more than 2 sequential applications of FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 72 fl oz/acre per year.

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
<b>Apple; pear</b>	Alternaria leaf spots* ( <i>Alternaria</i> spp.) Scab, apple or pear ( <i>Venturia inaequalis</i> (apple), <i>Venturia pirina</i> (pear)) Powdery mildew ( <i>Podosphaera leucotricha</i> ) Rusts* ( <i>Gymnosporangium</i> spp.)	16 to 20 fl oz	Begin applications prior to disease development and continue on a 7- to 21-day interval. Use higher rate and shorter interval when disease pressure is high. - Application interval for scab is 7 to 10 days. For apple scab, a reliable disease forecasting system should be used. <b>NOTE:</b> Do NOT tank-mix FONTELIS® with thinning agents.

Make no more than 2 sequential applications of DuPont™ FONTELIS® before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 28 days. Do not exceed 61 fl oz/acre per year.

\*Not for use in California.

<b>Root vegetables and leaves</b> (except sugarbeet) Beet, garden; burdock, edible; carrot; celeriac; chervil, turnip-rooted; chicory; ginseng; horseradish; parsley, turnip-rooted; parsnip; radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; turnip	Cercospora leaf spot ( <i>Cercospora</i> spp.) Cylindrocarpon root rot ( <i>Cylindrocarpon destructans</i> )	16 to 30 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
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Make no more than 2 sequential applications of FONTELIS® fungicide before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 61 fl oz/acre per year.

<b>Stone fruits</b> Apricot; cherry, sweet; cherry, tart; nectarine; peach; plum; plum, Chickasaw; plum, Damson; plum, Japanese; plumcot; prune (fresh)	Scab ( <i>Cladosporium carpophilum</i> )	14 to 20 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.
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Make no more than 2 sequential applications of FONTELIS® before switching to a fungicide with a different mode of action. Minimum time from application to harvest (PHI) is 0 days. Do not exceed 61 fl oz/acre per year.

Crop/Crop Group	Target Diseases	Use Rate per Acre (fl oz)	Remarks
<b>Almond; filbert (hazelnut); walnut, black and English; pistachio</b>	Powdery mildew <i>(Podosphaera tridactyla</i> var. <i>tridactyla</i> , <i>Sphaerotheca pannosa</i> , <i>Phyllactinia</i> <i>angulata</i> , <i>Phyllactinia guttata</i> f. sp. <i>coryli</i> , <i>Microsphaera</i> spp., <i>Oidium</i> spp.) Rust <i>(Tranzschelia discolor</i> , <i>Uromyces</i> spp., <i>Pucciniastrum coryli</i> )	14 to 20 fl oz	Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. For suppression of scab where Group 7 fungicide resistance is suspected, tank mix DuPont™ FONTELIS® with an effective fungicide with a different mode-of-action.
Make no more than 2 sequential applications of FONTELIS® fungicide before switching to a fungicide with a different mode of action. For suppression of scab where Group 7 fungicide resistance is suspected, tank mix FONTELIS® with an effective fungicide with a different mode-of-action. Minimum time from application to harvest (PHI) is 14 days. Do not exceed 61 fl oz/acre per year.			

## **SPRAY DRIFT MANAGEMENT**

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

**AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.**

### **IMPORTANCE OF DROPLET SIZE**

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

### **CONTROLLING DROPLET SIZE - GROUND APPLICATION**

- Nozzle Type - Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- Pressure - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

### **CONTROLLING DROPLET SIZE – AIRCRAFT**

- Nozzle Type - Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- Number of Nozzles - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum
- Nozzle Orientation - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Pressure – Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential

### **BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT**

- Boom Length (aircraft) - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- Application Height (ground) - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

## **WIND**

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.**

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

## **TEMPERATURE AND HUMIDITY**

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

## **SURFACE TEMPERATURE INVERSIONS**

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

## **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

## **AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

## **SENSITIVE AREAS**

This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

## **DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers and Distributors of Agrotechnology.