DuPont™ Vertisan™
fungicide
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Emulsifiable Concentrate

Active Ingredient By Weight
Penthiopyrad 20.6%
Other Ingredients 79.4%
TOTAL 100.0%

Contains 1.67 pounds of penthiopyrad per gallon of product

EPA Reg. No. 352-836
EPA Est. No. ________

Nonrefillable Container
Net: ______________

OR

Refillable Container
Net: ______________

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

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

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

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

WARNING

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). 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. Remove and wash contaminated clothing before reuse.
PERSONAL PROTECTIVE EQUIPMENT (PPE)
Mixers, loaders, applicators, and other handlers must wear:
- Long-sleeved shirt
- Long pants
- Shoes and socks
- Protective eyewear (goggles, face shield, or safety glasses)
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 thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove and wash contaminated clothing before reuse. 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 pesticide is toxic to fish. 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.
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)
- Protective eyewear (goggles, face shield, or safety glasses)

DuPont™ VERTISAN™ fungicide (i.e., VERTISAN™), an emulsifiable concentrate containing penthiopyrad, is recommended for use as a spray for the control of many important listed plant diseases.

Restrictions

- Use this product only in commercial and farm plantings.
- Do not use for home plantings.

VERTISAN™ must be used only in accordance with recommendations on this label.

Do not formulate this product into other end-use products without written permission from DuPont.

GENERAL INFORMATION

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

VERTISAN™ can be applied with ground, air or chemigation equipment, except as otherwise directed, using sufficient water to obtain thorough coverage of plants.

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: VERTISAN™ rapidly penetrates into plant tissues and is rainfast within 1 hour after application.

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
**DuPont™ VERTISAN™** 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. VERTISAN™ may be used as part of an Integrated Pest Management (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. Penthiopyrad, the active ingredient in VERTISAN™, 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. For guidance on a particular crop and disease control situation, consult your state extension specialist for official state recommendations.

**TANK MIXTURES**

Tank mixtures with other fungicides may be used to broaden spectrum and/or manage potential resistance. Use tank mixtures with effective fungicides from different target site of action groups (VERTISAN™ is in Group 7, carboxamide fungicides) that are registered for the same crop use. Apply at least the minimum labeled rate of each fungicide in the tank mix.

**APPLICATION INFORMATION**

**Mixing Instructions**

1. Fill clean spray tank 1/4 - 1/2 full of water.
2. While agitating, add the required amount of VERTISAN™, continuing agitation until the product is completely dispersed.
3. Continue filling the tank, with agitation, adding desired additives or tank mix partners, following the sequence listed below in ‘tank mixing sequence’.

**Adjuvants**

VERTISAN™ 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.

**Compatibility**

VERTISAN™ is 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 advisable to test the physical compatibility of desired tank mixes and check for adverse effects like settling out or flocculation. To determine the physical compatibility, add the recommended proportions of the tank mix products to water, mix thoroughly and allow to stand for 20 minutes. If the combination remains mixed, or can be re-mixed readily, it is considered physically compatible.

The crop safety of all potential tank-mixes, including additives and other pesticides, on all crops has not been tested. Before applying any tank-mixture not specifically recommended on this label or other DuPont supplemental labeling, the safety to the target crop must be confirmed. To test for crop safety,
apply the combination to a small area of the target crop in accordance with the label instructions to ensure that a phytotoxic response will not occur.

**Tank Mixing Sequence**
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
5. water-soluble concentrates
6. oil-based suspension concentrates
7. emulsifiable concentrates (DuPont™ VERTISAN™)
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 VERTISAN™.
Table 1. DuPont™ VERTISAN™ fungicide labeled Crop and Crop Groups, Pre-Harvest Intervals, Maximum Single Application Rates, and Total Rates allowed per year

<table>
<thead>
<tr>
<th>Crop, Subgroup with examples</th>
<th>Minimum Time from Application to Harvest (PHI days or crop stage)</th>
<th>Maximum Rate per Acre per Application (fl oz product)</th>
<th>Maximum Product per Acre per Year (fl oz product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canola</td>
<td>21 days</td>
<td>20 fl oz</td>
<td>41 fl oz</td>
</tr>
<tr>
<td>Cereal grains Barley, Wheat, oats, rye</td>
<td>0 day forage and hay, Do not apply after flowering (10.5.1)</td>
<td>24 fl oz</td>
<td>48 fl oz</td>
</tr>
<tr>
<td>Cereal grains Sorghum</td>
<td>0 day forage 30 days grain and stover</td>
<td>24 fl oz</td>
<td>48 fl oz</td>
</tr>
<tr>
<td>Corn</td>
<td>0 day forage 7 days grain and stover</td>
<td>24 fl oz</td>
<td>48 fl oz</td>
</tr>
<tr>
<td>Legume vegetables Bean, pea (subgroup 6C dried shelled, except soybean)</td>
<td>0 day vine and hay 21 days seed</td>
<td>20 fl oz</td>
<td>41 fl oz</td>
</tr>
<tr>
<td>Soybeans</td>
<td>0 day forage and hay 14 days seed</td>
<td>30 fl oz</td>
<td>61 fl oz</td>
</tr>
<tr>
<td>Sugarbeet</td>
<td>7 days 0 day forage</td>
<td>30 fl oz</td>
<td>61 fl oz</td>
</tr>
<tr>
<td>Sunflower</td>
<td>14 days</td>
<td>30 fl oz</td>
<td>61 fl oz</td>
</tr>
<tr>
<td>Potato, sweet potato, yam</td>
<td>7 days</td>
<td>24 fl oz</td>
<td>72 fl oz</td>
</tr>
</tbody>
</table>

**Soilborne/Seedling Disease Control**

VERTISAN™ 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 VERTISAN™ 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 VERTISAN™ 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.
## In-Furrow and Banded Application Rates

<table>
<thead>
<tr>
<th>Rate per 1000 row feet</th>
<th>22” rows</th>
<th>30” rows</th>
<th>32” rows</th>
<th>34” rows</th>
<th>36” rows</th>
<th>38” rows</th>
<th>40” rows</th>
</tr>
</thead>
<tbody>
<tr>
<td>fl oz prod/1000 ft row</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.7</td>
<td>16.7</td>
<td>12.2</td>
<td>11.4</td>
<td>10.9</td>
<td>10.2</td>
<td>9.6</td>
<td>9.2</td>
</tr>
<tr>
<td>1.2</td>
<td>28.6b</td>
<td>20.9</td>
<td>19.6</td>
<td>18.5</td>
<td>17.4</td>
<td>16.5</td>
<td>15.7</td>
</tr>
<tr>
<td>1.6</td>
<td>-</td>
<td>27.9c</td>
<td>26.1d</td>
<td>24.6e</td>
<td>23.0</td>
<td>22.0</td>
<td>21.1</td>
</tr>
</tbody>
</table>

*Consult the maximum rate per acre allowed for the crop, and do not exceed that rate when using this application method.*

*b 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.*

*c In 30 inch rows, the highest rate for crops with 24 fl oz/acre maximums is 1.38 fl oz/1000 ft row.*

*d In 32 inch rows, the highest rate for crops with 24 fl oz/acre maximums is 1.47 fl oz/1000 ft row.*

*e In 34 inch rows, the highest rate for crops with 24 fl oz/acre maximums is 1.56 fl oz/1000 ft row.*

### USE RATES AND APPLICATION INSTRUCTIONS

<table>
<thead>
<tr>
<th>Crop/Crop Group</th>
<th>Disease Controlled or Suppressed</th>
<th>Rate fl oz/acre</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canola</td>
<td>Alternaria blackspot, <em>(Alternaria spp.)</em></td>
<td>14 to 20 fl oz</td>
<td>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: Begin application at 20-50% bloom prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.</td>
</tr>
<tr>
<td>Canola</td>
<td>Sclerotinia stem rot, white mold <em>(Sclerotinia spp.)</em></td>
<td>16 to 20 fl oz</td>
<td></td>
</tr>
</tbody>
</table>

*Make no more than 2 sequential applications of DuPont™ VERTISAN™ fungicide before switching to a fungicide with a different mode of action. Minimum time (PHI) between application and harvest is 21 days. Do not exceed 41 fl oz/acre per year.*

<table>
<thead>
<tr>
<th>Cereal grains</th>
<th>Use directions for specific cereal grains are provided below. Cereal grains may be used for grazing, forage, and/or hay within 0 days after the last application.</th>
<th>Rate fl oz/acre</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>Scald <em>(Rhynchosporium secalis)</em> Spot blotch <em>(Cochliobolus sativus)</em></td>
<td>14 to 24 fl oz</td>
<td>Begin applications prior to disease development and continue on a 7- to 14-day interval, depending on the targeted disease. Use higher rate and shorter interval when disease pressure is high.</td>
</tr>
</tbody>
</table>

*Make no more than 2 sequential applications of VERTISAN™ before switching to a fungicide with a different mode of action. Do not apply after flowering (Feekes 10.5.1). Do not exceed 48 fl oz/acre per year.*

| Millet, pearl; millet, proso; Sorghum (milo); sorghum spp. (sudangrass and hybrids) | Rust, common *(Puccinia sorghi)* | 10 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 VERTISAN™ before switching to a fungicide with a different mode of action. Minimum time (PHI) between application and grain and stover harvest is 30 days. Do not exceed 48 fl oz/acre per year.*
<table>
<thead>
<tr>
<th>Crop/Crop Group</th>
<th>Disease Controlled or Suppressed</th>
<th>Rate fl oz/acre</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat, rye, oats, buckwheat, teosinte, triticale</td>
<td>Leaf and glume blotch <em>(Stagonospora spp., Septoria spp.)</em> Rust, brown leaf <em>(Puccinia recondita f. sp. tritici)</em> Rust, black stem <em>(Puccinia graminis f. sp. tritici)</em> Rust, stripe <em>(Puccinia striiformis)</em> Tan spot <em>(Pyrenophora tritici-repentis)</em></td>
<td>10 to 24 fl oz</td>
<td>Begin applications prior to disease development and continue on a 7- to 14-day interval, depending on the targeted disease. Use higher rate and shorter interval when disease pressure is high. To optimize yields in cereals, it is important to protect the flag leaf from foliar diseases. For optimizing yield and flag leaf disease control, apply DuPont™ VERTISAN™ fungicide at Feekes 9, 'flag leaf out.'</td>
</tr>
</tbody>
</table>

| Disease suppression | Powdery mildew *(Erysiphe graminis f. sp. tritici)* Scab *(Fusarium spp.)* | 16 to 24 fl oz | |

| Crop, field corn, sweet corn, seed popcorn | Anthracnose leaf blight *(Colletotrichum graminicola)* Gray leaf spot *(Cercospora zeae-maydis)* Leaf spots *(Alternaria spp.)* Northern corn leaf blight *(Exserohilum turcicum)* Northern corn leaf spot *(Bipolaris zeicola)* Rusts *(Puccinia spp.)* Southern corn leaf blight *(Bipolaris maydis)* Physoderma brown spot *(Physoderma maydis)* | 10 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. |

|  |  | 16 to 24 fl oz | |

Make no more than 2 sequential applications of VERTISAN™ fungicide before switching to a fungicide with a different mode of action. Do not apply after flowering (Feekes 10.5.1). Do not exceed 48 fl oz/acre per year.
<table>
<thead>
<tr>
<th>Crop/Crop Group</th>
<th>Disease Controlled or Suppressed</th>
<th>Rate fl oz/acre</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legume vegetables</strong></td>
<td><strong>Subgroup 6C dried shelled beans and peas, except soybeans</strong></td>
<td></td>
<td><strong>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.</strong></td>
</tr>
</tbody>
</table>
| Dried cultivars of bean (Lupinus spp) (includes grain lupin, sweet lupin, white lupin, white sweet lupin); (Phaseolus spp) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean); tepary bean; Bean (Vigna spp) (includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea (garbanzo); guar; lablab bean; lentil; pea (Pisum spp) (includes field pea); pigeon pea | Alternaria blight, leaf spot *(Alternaria spp.)*  
Angular leaf spot *(Phaeoisariopsis griseola)*  
Anthracnose *(Colletotrichum lindemuthianum)*  
Ascochyta blight, leaf spot *(Ascochyta spp.)*  
Cercospora leaf spot *(Cercospora spp.)*  
Gray mold *(Botrytis cinerea)*  
Powdery mildew *(Erysiphe spp.)*  
Rust *(Uromyces spp., Phakopsora spp)*  
Septoria blight and leaf spot *(Septoria spp.)*  
Sclerotinia rot, white mold *(Sclerotinia spp.)* | 14 to 20 fl oz | Make no more than 2 sequential applications of DuPont™ VERTISAN™ fungicide before switching to a fungicide with a different mode of action. Vines may be grazed or used for hay 0 days after application. Minimum time (PHI) between application and harvest of seed is 21 days. Do not exceed 41 fl oz/acre per year. |
| **Soybean**                                                                      | Anthracnose *(Colletotrichum truncatum)*  
Alternaria leaf spot *(Alternaria spp.)*  
Brown Spot *(Septoria glycines)*  
Cercospora blight and leaf spot *(Cercospora kikuchii)*  
Frogeye leaf spot *(Cercospora sojina)*  
Pod and stem blight *(Diaporthe phaseolum)*  
Rust *(Puccinia spp., Phakopsora spp)*  
Target Spot *(Corynespora cassiicola)*  
Sclerotinia stem rot (white mold) *(Sclerotinia sclerotiorum)* | 10 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. For white mold: make initial preventive application at 100% bloom (1 flower blooming on all plants) and follow with 2nd application 7-10 days later at full bloom. |

Make no more than 2 sequential applications of VERTISAN™ before switching to a fungicide with a different mode of action. Do not use soybean forage or hay for livestock feed. Minimum time (PHI) between application and harvest of seed is 14 days. Do not exceed 61 fl oz/acre per year.
<table>
<thead>
<tr>
<th>Crop/Crop Group</th>
<th>Disease Controlled or Suppressed</th>
<th>Rate fl oz/acre</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Sugarbeet       | Cercospora leaf spot (Cercospora beticola)  
Powdery mildew (Erysiphe betae)  
Rust (Uromyces betae) | 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. |
| Soil-borne diseases (Rhizoctonia spp.) | 0.7 to 1.6 fl oz/1000 row-ft | At-plant, in-furrow, transplant seedling application. Maximum rate per acre per application is 30 fl oz. See soil-borne disease section instructions. |

Make no more than 2 sequential applications of DuPont™ VERTISAN™ fungicide before switching to a fungicide with a different mode of action. Sugarbeet tops may be used for grazing or forage 0 days after the last application. Minimum time (PHI) between application and harvest is 7 days. Do not exceed 61 fl oz/acre per year.

| Sunflower       | Alternaria leaf spot (Alternaria spp.)  
Powdery mildew (Erysiphe cichoracearum)  
Rust (Puccinia helianthi, Uromyces spp.)  
Septoria leaf spot (Septoria spp.)  
Sclerotinia stem rot (Sclerotinia spp.) | 10 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 VERTISAN™ before switching to a fungicide with a different mode of action. Minimum time (PHI) between application and harvest is 14 days. Do not exceed 61 fl oz/acre per year.

| Potato; sweet potato; yam, true | Alternaria early blight and brown spot (Alternaria solani, Alternaria alternata)  
Gray mold (Botrytis cinerea)  
Powdery mildew (Erysiphe spp.)  
Black dot (Colletotrichum coccodes) | 10 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 initial application at 100% full bloom of the primary inflorescence, or prior to row closure, and then again 14 days later.

| Disease suppression | White mold (Sclerotinia sclerotiorum) | 14 to 24 fl oz | Make initial application at 100% full bloom of the primary inflorescence, or prior to row closure, and then again 14 days later. |

| Soil-borne diseases | Rhizoctonia stem canker and black scurf (Rhizoctonia solani) | 0.7 to 1.6 fl oz/1000 row-ft | At-plant, in-furrow, transplant seedling application. Maximum rate per acre per application is 24 fl oz. See soil-borne disease section instructions. |

Make no more than 2 sequential applications of VERTISAN™ before switching to a fungicide with a different mode of action. Minimum time (PHI) between application and harvest is 7 days. Do not exceed 72 fl oz/acre per year.
Chemigation

Apply DuPont™ VERTISAN™ 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 nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

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.

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.

4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. 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.

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. Good agitation is required in the injection tank.

8. In moving systems, apply specified dosage of DuPont™ VERTISAN™ fungicide as a continuous injection. In nonmoving systems inject VERTISAN™ for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage.

9. Mix the amount of VERTISAN™ 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.

10. Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all VERTISAN™ 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 way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

Controlling Droplet Size - General Techniques

• **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

• **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.

• **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size - Aircraft

• **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

• **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.

• **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
**BOOM LENGTH AND HEIGHT**

- **Boom Length (aircraft)** - The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.

- **Boom Height (aircraft)** - Application more than 10 ft above the canopy increases the potential for spray drift.

- **Boom Height (ground)** - Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

**WIND**

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

**Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

**SURFACE TEMPERATURE INVERSIONS**

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes 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. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates a surface inversion, while 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 preventing drift 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, is configured properly, and that drift is not occurring.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

**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).
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.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Greater 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. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. 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.

Nonrefillable Rigid Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer’s instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing 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. 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.

All Refillable Containers: Refillable container. Refilling Container: Refill this container with DuPont™ VERTISAN™ fungicide containing penthiopyrad only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact DuPont at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer’s instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing 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.
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