

7969-184

07/06/2006

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

JUL 6 2006

Charlotte A. Sanson
BASF Corporation
26 Davis Drive
P.O. Box 13528
Research Triangle Park, North Carolina 27709-3528

Subject: Insignia Fungicide
EPA Registration Number 7969-184
Your label amendment application dated February 24, 2004--the master label version submitted by e-mail on May 22, 2006 and further amended by replacement pages 10 and 19 which were submitted by e-mail on June 21, 2006, and the supplemental label submitted by e-mail On May 22, 2006

Dear Ms. Sanson,

The amended master label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable, provided that you comply with the following conditions.

1. Make the following changes to the label.
 - a. Near the end of the first paragraph in the "AGRICULTURAL USE REQUIREMENTS" section, change "Worker Protections Standard" to "Worker Protection Standard".
 - b. In the "RESTRICTIONS AND LIMITATIONS" section modify the statement that reads "DO NOT apply this product to crops other than turfgrass." to make it conform to the addition of ornamentals to the label.
 - c. At the end of the "Resistance Management:" subsection of the "RESTRICTIONS AND LIMITATIONS" section on page 11, eliminate the redundancy in "...before reapplying Insignia again."
 - d. In the "Scientific name" column of Table 7 on page 17, change "Mandevill sp." to "Mandevilla sp."

2. Submit one copy of your final printed labeling before you release the product for shipment.

The amended supplemental label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable, provided that you make the following changes to the label.

a. At the end of the "Resistance Management:" subsection of the "Application Information" section at the end of page 3, eliminate the redundancy in "...before re-applying Insignia again."

b. In the "Comments" column in Table 1, in the "Crown and basal rot" and "Rhizoctonia blight" rows change "wood ornamentals" to "woody ornamentals".

If these conditions are not complied with, the registration may be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

If you have any questions about this letter, please contact John Bazuin at (703)305-7381.

Sincerely yours,



Tony Kish
Product Manager (22)
Fungicide Branch
Registration Division (7505C)

Attachment: Master and supplemental labels stamped "ACCEPTED with COMMENTS"

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BASF

The Chemical Company

Group 11 Fungicide

Insignia®

For disease control in turfgrass and ornamentals.

Active Ingredient:

Pyraclostrobin (carbamic acid, [2-[[[1-(4-chlorophenyl)-1H-pyrazol-3-yl]oxy)methyl]phenyl]methoxy-,methyl ester) 20.0%

Other Ingredients: 80.0%

Total: 100.0%

EPA Reg. No. 7969-184

EPA Est. No. _____

KEEP OUT OF REACH OF CHILDREN.

CAUTION/PRECAUCIÓN

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

See inside booklet for complete **First Aid, Precautionary Statements, Directions For Use, and Conditions of Sale and Warranty.**

Net contents: _____

BASF Corporation
Agricultural Products
26 Davis Drive
Research Triangle Park, NC 27709

**ACCEPTED
with COMMENTS
In EPA Letter Dated**

JUL 6 2006

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

7969-
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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 do so by a poison control center or doctor.
- **DO NOT** give anything by mouth to an unconscious person.

If on skin or clothing

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

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 eye.
- Call a poison control center or doctor for advice.

If inhaled

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible.
- Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. For more options refer to **Category A** on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material (such as nitrile, butyl, neoprene and/or barrier laminate)
- Shoes plus socks

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

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

Engineering Controls Statement

When handlers use closed systems or enclosed cabs 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.

Environmental Hazards

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after applications. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. 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 for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

This pesticide is toxic to fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** apply directly to water, 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 wash waters or rinsate.

DIRECTIONS FOR USE

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

For use only by commercial applicators or persons under their direct supervision.

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 agency responsible for pesticide regulation.

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

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
- Chemical-resistant gloves made of any waterproof material (such as nitrile, butyl, neoprene, and/or barrier laminate.)
- Shoes plus socks

NON AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are **NOT** within the scope of the Worker Protection Standard of agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, nurseries, or greenhouses.

DO NOT enter or allow others to enter treated areas until sprays have dried.

Storage and Disposal

DO NOT contaminate water, food, or feed by storage or disposal.

- **Pesticide Storage:** Store in original containers only. Keep container closed when not in use. **DO NOT** store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to label.
- **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

- **Container Disposal:** Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

In Case of Spill

In case of large-scale spillage regarding this product, call:

CHEMTREC	1-800-424-9300
BASF Corporation	1-800-832-HELP (4357)

Steps to be taken in case this material is released or spilled:

Dike and contain spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.

Remove contaminated clothing, and wash affected skin areas with soap and water.

Wash clothing before reuse.

Keep spill out of all sewers and open bodies of water.

I. GENERAL INFORMATION

Insignia® fungicide is a broad-spectrum fungicide recommended for the control of many important diseases of turfgrass and ornamentals. For maximum efficacy, **Insignia** should be applied preventively but also may be used curatively for some diseases. **Insignia** may be applied as a solo foliar spray or in tank mixes with other registered fungicides. **DO NOT** exceed the recommended application rate or fail to comply with use restrictions listed in the **Resistance Management** and **Restrictions and Limitations** sections. All applications should be made according to the use directions that follow. Failure to follow directions and precautions on this label may result in injury and/or inferior disease control.

This package contains **Insignia**, a water dispersible granule (WG). The active ingredient in **Insignia**, pyraclostrobin, is a member of the strobilurin class of chemistry and is derived from a natural antifungal substance. Optimum disease control is achieved when **Insignia** is applied in a regularly scheduled protective spray program and is used in a rotation program with other fungicides. Because of its high specific activity, **Insignia** has good residual activity against target fungi.

Mode of Action: Pyraclostrobin, the active ingredient in **Insignia**, belongs to the group of respiration inhibitors classified by the USEPA and Canada PMRA as **Quinone Outside Inhibitors (QoI)** or Target Site of Action **Group 11** fungicides.

II. APPLICATION INFORMATION**Use Sites:**

Use on turfgrass - Insignia may be used for disease control in the following turf use sites:

- golf courses
- residential, institutional, commercial, and municipal lawns
- parks

- recreational areas including sports and athletic fields
- cemeteries
- sod farms

Use on ornamental plants - Insignia[®] fungicide may be used for disease control on ornamentals, including flower bulbs and forest and conifer nurseries and plantations.

Use sites include:

- outdoor nurseries
- retail nurseries
- greenhouses, lath- and shadehouses and other enclosed structures
- containers
- residential and commercial landscapes
- interiorscapes
- recreational areas including golf courses

Application Instructions:

For maximum efficacy, **Insignia** should be applied prior to or in the early stages of disease development. For maximum efficacy, apply **Insignia** at the rates indicated in **Table 1** in 2 to 4 gallons of water per 1000 square feet (87 to 174 gallons per acre). Use the shorter specified application interval and/or the higher specified rate when prolonged favorable disease conditions exist. Applications should be repeated at the specified interval as necessary.

- **Insignia** is most effective when applied preventively.
- Actual length of disease control will vary depending on environmental conditions, disease pressure, and management practices.
- Calibrate spray prior to use.
- After application, allow foliage to dry prior to mowing or irrigation.
- Apply **Insignia** using sufficient water volume and pressure for adequate coverage of the foliage.
- Apply the recommended rate of **Insignia** as instructed in the **Use Directions** section with ground spray equipment.

Aerial application of **Insignia** is not permitted.

Spray Drift Management

DO NOT spray when conditions favor drift beyond area intended for application. Conditions that contribute to drift include thermal inversion, wind speed and direction, spray nozzle/pressure combinations, spray droplet size, temperature/humidity, etc. Contact your state extension agent for spray drift prevention guidelines in your area. All application equipment must be properly maintained and calibrated using appropriate carriers. Avoiding spray drift at the application site is the responsibility of the applicator.

Wind

Drift potential is lowest when wind speed does not exceed 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

Low humidity and high temperatures increase the evaporation of spray droplets and therefore the likelihood of increased spray drift.

Avoid spraying during conditions of low humidity and/or high temperatures. When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation.

Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures 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 an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. bodies of water or non-target crops) is minimal and when wind is blowing away from the sensitive areas.

Use Precautions for Sprinkler and Drip Irrigation Applications:

Drip Irrigation: **Insignia** may be applied through drip irrigation systems to potted ornamentals or to bedded, field grown ornamentals for soil-borne disease control. Apply 8-16 oz **Insignia** per acre as a preventative disease application. The soil or potting media should have adequate moisture capacity prior to drip application.

Terminate drip irrigation at fungicide depletion from the main feed supply tank or after 6 hours from start, whichever is shorter. For maximum efficacy, subsequent irrigation (water only) should be delayed for at least 24 hours following drip application.

Sprinkler Irrigation: Apply this product through sprinkler irrigation systems, including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system except as specified on this label.

Apply with center pivot or continuous-move equipment distributing 1/2 acre-inch or less during treatment. In gen-

eral, use the least amount of water required for proper distribution and coverage. If stationary systems (solid set, handlines or wheel lines other than continuous-move) are used, this product should be injected into no more than the last 20-30 minutes of the set. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment. Plant injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform treated water. Thorough coverage of foliage is required for good control. Good agitation should be maintained during the entire application period. If you have questions about calibration, you should contact a State Extension Service specialist, equipment manufacturers or other experts. 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. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. 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. **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.

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 back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir

tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

3. The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.

4. The pesticide injection pipeline must contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

6. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

Resistance Management

Insignia® fungicide contains pyraclostrobin, a **Group 11** fungicide, and is effective against pathogens resistant to fungicides with modes of action different from those of **QoI** fungicides (target site of action **Group 11**), such as the dicarboximides, sterol inhibitors, benzimidazoles, or phenylamides. Fungal isolates resistant to **Group 11** fungicides, such as pyraclostrobin, azoxystrobin, and trifloxystrobin, may eventually dominate the fungal population if **Group 11** fungicides are used predominantly and repeatedly in the same area in successive years as the primary method of control for the targeted pathogen species. This may result in reduction of disease control by **Insignia** or other **Group 11** fungicides.

To maintain the performance of **Insignia**, **DO NOT** exceed the total number of sequential applications of **Insignia**. Adhere to the label instructions regarding the consecutive use of **Insignia** or other target site of action **Group 11** fungicides that have a similar site of action on the same pathogens.

The following recommendations may be considered to delay the development of fungicide resistance:

1. **Tank mixtures:** Use tank mixtures with fungicides from different target site of action groups that are registered/permitted for the same use and that are effective against the pathogens of concern. BASF recommends using at least the minimum labeled rates of each fungicide in the tank mix.

2. **IPM: Insignia® fungicide** should be integrated into an overall disease and pest management program. Cultural practices known to reduce disease development should be followed. **Insignia** may be used in advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.
3. **Monitoring:** Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development. If a **Group 11** target site fungicide, such as **Insignia** appears to be less effective against a pathogen that it previously controlled or suppressed, contact a BASF representative or local expert for further investigation.

In turfgrass DO NOT make more than two (2) sequential applications of **Insignia** for Pythium blight, gray leaf spot, dollar spot, or anthracnose. Then alternate to an effective non-strobilurin fungicide before reapplying **Insignia**.

DO NOT make more than three (3) consecutive applications of **Insignia** for all other turfgrass diseases. Then alternate to an effective non-strobilurin fungicide before reapplying **Insignia**.

In ornamental plants, DO NOT make more than two (2) sequential applications of **Insignia**. Then alternate with a fungicide of a different mode of action before reapplying **Insignia**. **DO NOT** alternate **Insignia** with other **Group 11** fungicides.

III. ADDITION OF ADDITIVES

DO NOT use with organosilicate-based adjuvants or injury may occur. Due to the large number of additives or adjuvants that may be used, neither the manufacturer nor the seller has determined whether **Insignia** can be used safely with all additives.

IV. GENERAL TANK MIXING INFORMATION

Tank Mix Partners/Components

Insignia is compatible with most fungicide, insecticide and fertilizer products. If tank mixtures are used, adhere to restrictions due to rates, label recommendations and precautions on all labels.

Physical incompatibility, reduced disease control, or plant injury may result from mixing **Insignia** with fungicides, herbicides, insecticides, additives, or fertilizers. To improve control of certain diseases, **Insignia** may be tank mixed with other effective (non-strobilurin) fungicides.

Compatibility Test for Tank Mix Components:

Add components in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre.

- 1) **Water:** For 87 gallons per acre spray volume, use 14.4 cups (3.5 liters) of water. For other spray volumes, adjust rates accordingly. Use only water from

- the intended source at the source temperature.
- 2) **Water-dispersible products:** (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions) - Cap the jar and invert 10 cycles.
- 3) **Water-soluble products:** Cap the jar and invert 10 cycles.
- 4) **Emulsifiable concentrates:** (oil concentrate or methylated seed oil when applicable) - Cap the jar and invert 10 cycles.
- 5) **Water-soluble additives:** Cap the jar and invert 10 cycles.
- 6) Let the solution stand for 15 minutes.
- 7) **Evaluate** the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. **DO NOT** use any spray solution that could clog spray nozzles.

Mixing Order:

Limit amount of spray mixture prepared to that needed for immediate use.

- 1) **Water:** Begin by agitating a thoroughly clean sprayer tank half full of clean water.
- 2) **Products in PVA bags:** Place the water-soluble PVA bag into the mixing tank. The water-soluble PVA bag will dissolve in water to allow the contents to disperse. Wait until all water-soluble PVA bags have fully dissolved, and the product is evenly mixed in the spray tank before continuing.
- 3) **Water-dispersible products** (dry flowables such as **Insignia**, wettable powders, suspension concentrates, or suspo-emulsions).
- 4) **Water-soluble products.**
- 5) **Emulsifiable concentrates** (oil concentrate or methylated seed oil when applicable).
- 6) **Water-soluble additives** (AMS or UAN when applicable).
- 7) Remaining quantity of **water**.

Maintain maximum constant agitation during application. **DO NOT allow mixture to stand for extended periods prior to application.**

Cleaning Spray Equipment:

Spraying equipment must be cleaned thoroughly before and after applying this product, particularly if a product with the potential to injure turfgrass was used prior to **Insignia**.

TURFGRASS USE DIRECTIONS

Insignia is recommended for the control of anthracnose, bentgrass dead spot, bermudagrass decline, brown patch, dollar spot (suppression only), fairy ring, Fusarium patch, gray leaf spot, gray snow mold, large patch, leaf spot, melting out, necrotic ring spot, pink patch, pink snow mold, powdery mildew, Pythium blight, Pythium root dysfunction, rapid blight, red thread, Rhizoctonia leaf or sheath spot, rust, summer patch, take-all patch and yellow tuft (downy mildew).

Insignia[®] fungicide provides significant suppression but not complete control of dollar spot. When used to control other diseases and dollar spot pressure is moderate to severe, tank mix **Insignia** with another effective (non-strobilurin) fungicide. For optimum control of gray snow mold and pink snow mold, tank mix **Insignia** with another effective (non-strobilurin) fungicide.

Turfgrass Uses and Tolerance:

Due to variability within turfgrass species, application techniques and possible tank mixes, neither the manufacturer nor the seller has determined whether or not **Insignia** can safely be used on all turfgrasses under all conditions.

Therefore, it is recommended that the user determine if **Insignia** can be used safely before broad use. Apply the recommended use rate of **Insignia** on a small test area under conditions expected to be encountered. Monitor for any adverse effects during a 14-day period after application.

Rate: Use the application rates specified for each disease as listed in **Table 1**. Apply **Insignia** in 2 to 4 gallons of water per 1000 square feet (87-174 gallons per acre).

RESTRICTIONS AND LIMITATIONS

- **Maximum seasonal use rate: DO NOT** apply more than a total of 5.5 ounces of **Insignia** per 1000 sq ft per year (15.0 pounds **Insignia** per acre per year).
- Refer to **Table 1** for sequential application intervals for **Insignia**.
- **DO NOT** apply this product to crops other than **turfgrass**.
- **DO NOT** apply through any type of **irrigation** equipment to **turfgrass**.
- This product cannot be used to **formulate** or reformulate any other pesticide product.

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Table 1 - Application Rates and Intervals for Insignia® fungicide on Turfgrass				
Disease (Pathogen)	Use Rate (oz Product per 1000 sq ft)	Use Rate (oz Product per Acre)	Application Interval (days)	Comments
Anthracnose ¹ (<i>Colletotrichum graminicola</i>)	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Bentgrass Dead Spot (<i>Ophiosphaerella agrostis</i>)	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Bermudagrass Decline (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	0.9	40	Not Applicable (see comments)	Aids in control of bermudagrass decline when integrated with appropriate cultural practices such as raised mowing height, proper fertilization and core aeration. Make one application in the spring following green-up and a second application in the fall when air temperatures remain above 80°F and humidity is 75% or higher. Apply in 4 gallons of water per 1000 sq ft.
Brown Patch (<i>Rhizoctonia solani</i>)	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Dollar Spot ¹ (<i>Sclerotinia homoeocarpa</i>) (Suppression Only)	0.9	40	14	Insignia provides significant suppression but not complete control of dollar spot. When used to control other diseases and dollar spot pressure is moderate to severe, tank mix Insignia with another effective dollar spot fungicide such as Curalan® EG fungicide , Iprodione Pro or propiconazole. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Fairy Ring (various <i>Basidiomycete</i> fungi)	0.9	40	28	Apply as soon as possible after fairy ring symptom development. Fairy Ring symptoms may take 2 to 3 weeks to disappear following application. Use 4 gallons of spray volume and appropriate soil wetting agent at time of application. Reapplication after 28 days may be required.
Fusarium Patch (<i>Microdochium nivale</i>)	0.5 to 0.9	22 to 40	14 to 28	In the absence of snow cover, use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Gray Leaf Spot ¹ (<i>Pyricularia grisea</i>)	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Gray Snow Mold (<i>Typhula incarnata</i>)	0.9	40	14 to 28	Make 2 applications 14 to 28 days apart in late fall just prior to snow cover. For optimum control before extended periods of snow cover, make 1 or 2 applications of Insignia at 0.7 to 0.9 oz per 1000 sq ft tank mixed with another effective (non-strobilurin) fungicide such as Iprodione Pro, Curalan or propiconazole.
Large Patch (Brown Patch of warm season turfgrasses) (<i>Rhizoctonia solani</i>)	0.5 to 0.9	22 to 40	14 to 28	Apply prior to or directly at initial signs of infection in fall and make at least 2 sequential applications until turfgrass goes into dormancy. Reapplication in spring at time of green-up can be made if necessary. For control of brown patch of St. Augustinegrass, centipedegrass, kikuyugrass, Seashore paspalum and zoysiagrass (aka Zoysia patch).

Table 1 - Application Rates and Intervals for Insignia® fungicide on Turfgrass (continued)

Disease (Pathogen)	Use Rate (oz Product per 1000 sq ft)	Use Rate (oz Product per Acre)	Application Interval (days)	Comments
Leaf Spot (<i>Bipolaris</i> , <i>Drechslera</i> , and <i>Exserohilum</i> spp.)	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Melting Out (<i>Drechslera poae</i>)	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Necrotic Ringspot (<i>Leptosphaeria korrae</i>)	0.9	40	14 to 28	Aids in control of necrotic ring spot when combined with non-strobilurin fungicide such as thiophante methyl or propiconazole or chlorothalonil. Make applications in spring, fall or winter when conditions are present for outbreaks.
Pink Patch (<i>Limonomyces roseipellis</i>)	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Pink Snow Mold (<i>Microdochium nivale</i>)	0.9	40	14 to 28	Make 2 applications, 14 to 28 days apart in late fall just prior to snow cover. For optimum control before extended periods of snow cover, make 1 or 2 applications of Insignia at 0.7 to 0.9 oz per 1000 sq ft tank mixed with another effective (non-strobilurin) fungicide such as Iprodione Pro, Curalan® EG fungicide or propiconazole.
Powdery Mildew (<i>Blumeria graminis</i>)	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Pythium Blight ¹ (<i>Pythium aphanidermatum</i> , <i>Pythium</i> spp.)	0.9	40	10 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Tank mix Insignia with another (non-strobilurin) fungicide labeled for Pythium blight control during severe disease pressure or when symptoms are already present.
Pythium Root Dysfunction ¹ (<i>Pythium volutum</i> , <i>Pythium</i> spp.)	0.9	40	14 to 28	Apply preventatively or early curative for control. Following two sequential applications rotate to other effective fungicides for this disease prior to additional Insignia application. Irrigate immediately following application.
Rapid Blight (<i>Labyrinthula terrestris</i>)	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Follow the shorter spray interval when using the lower application rate.
Red Thread (<i>Laetisaria fuciformis</i>)	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Rhizoctonia leaf or Sheath Spot (<i>R. oryzae</i> , <i>R. zea</i>)	0.5 to 0.9	22 to 40	14 to 28	Rhizoctonia infection can occur under warm, humid conditions on both cool and warm season turfgrasses. This disease has been associated with localized dry spots and necrotic (brown) ring symptoms can form. Apply when conditions are favorable for disease development. Use of soil wetting agent may be appropriate.
Rust (<i>Puccinia</i> and <i>Uromyces</i> spp.)	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Summer patch (<i>Magnaporthe poae</i>)	0.5 to 0.9	22 to 40	14 to 28	Initiate applications in the spring when soil temperatures reach 60° to 65° F at a 2-inch soil depth, or as dictated by local recommendations.
Take-all Patch (<i>Gaeumannomyces graminis</i> var. <i>avenae</i>)	0.9	40	28	Use preventatively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Make 2 applications, 28-days apart, in the fall, and 2 applications, 28-days apart, in the spring.
Yellow Tuft (Downy Mildew) (<i>Sclerophthora</i>)	0.5 to 0.9	22 to 40	14 to 28	Use preventatively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.

¹ **DO NOT** apply more than two (2) sequential applications of **Insignia** for anthracnose, dollar spot, gray leaf spot or Pythium. For all other diseases, when anthracnose, dollar spot or Pythium are not present, **DO NOT** apply more than three (3) sequential applications of **Insignia**. Then alternate to an effective nonstrobilurin fungicide before reapplying **Insignia**.

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Table 2 - Dilution Table for Spray Solutions of Insignia[®] fungicide on Turfgrass			
Ounces of Insignia per 100 gallons of spray solution			
Insignia Use Rate (oz per 1000 sq ft)	Spray Volume - 2 gallons per 1000 sq ft	Spray Volume - 3 gallons per 1000 sq ft	Spray Volume - 4 gallons per 1000 sq ft
0.5	25	16.7	12.5
0.7	35	23.3	17.5
0.9	45	30.0	22.5

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PRODUCTION ORNAMENTALS AND LANDSCAPE MAINTENANCE USE DIRECTIONS

Insignia® fungicide is recommended for control of certain pathogens causing foliar, aerial, and crown rot diseases, including scab, blights, leaf spots, powdery and downy mildews, anthracnose, and rusts of ornamental plants and flower bulbs.

Insignia applications should begin prior to disease development and continue throughout the season at specified intervals following resistance management guidelines.

Insignia works best when used as part of a preventative disease management program. Use of **Insignia** as a late curative or eradicant treatment may not always result in satisfactory disease control.

Insignia should be integrated into an overall disease and pest management program that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, pruning, plant residue management, proper timing and placement of irrigation, and manipulation of environmental conditions to prevent fungal development where possible.

Plant Tolerance

The phytotoxic potential of **Insignia** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed. Refer to **Table 7** for the list of plants shown to be tolerant to **Insignia**. Not all plant species and their varieties and cultivars have been tested for tolerance to **Insignia**, possible tank mix combinations of **Insignia**, pesticide treatments preceding or following those of **Insignia**, and combinations of **Insignia** with adjuvants or surfactants. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using **Insignia**, test the product on a sample of the crop to be treated to ensure that a phytotoxic response will not occur prior to large scale use. **DO NOT** expose grapes of varieties Concord, Worden, Fredonia, and Niagara to spray or drift containing **Insignia**, as injury may result. **DO NOT** expose flowering Impatiens (*Impatiens* spp.) or flowering Petunia (*Petunia* sp.), Nine Bark (*Physocarpus opulifolius*), or Wintercreeper (*Euonymus vegetus*), to spray or drift containing **Insignia**, as injury may result (see **Table 8**).

Use with additives

Label directions are based on data without additives. Additives or spray adjuvants are usually not necessary for use with **Insignia**. If so desired, use only surfactants approved for ornamental plants in combination with **Insignia**. Test the product on a sample of the crop to be treated to ensure that injury will not occur prior to large scale use. **DO NOT** use organosilicone-based adjuvants with **Insignia**, as injury may result on certain ornamental species. Always test tank mixes on a small group of representative plants prior to broadscale use.

RESTRICTIONS AND LIMITATIONS

- For outdoor uses, **DO NOT** apply more than a total of 15 pounds of **Insignia** per crop acre per year.
- For greenhouse uses, **DO NOT** make more than 8 applications of **Insignia** per year.
- **DO NOT** apply to plants that show injury (leaf phytotoxicity or plant stunting) produced by prior pesticide applications.
- **DO NOT** use on crops intended for food or feed use.
- **DO NOT** use in vegetables grown in greenhouses for crop production, or in vegetable production of transplants for outdoor use.
- **DO NOT** expose the following to spray or drift containing **Insignia**, as injury may result:
 - Grapes of varieties Concord, Worden, Fredonia, and Niagara.
 - Wintercreeper (*Euonymus vegetus*)
 - Nine Bark (*Physocarpus opulifolius*)
 - Flowering Impatiens (*Impatiens* spp.)
 - Flowering Petunia (*Petunia* sp.)
- **Resistance Management:** To limit the potential for development of resistance, **DO NOT** make more than two (2) sequential applications of **Insignia**. Then alternate to a labeled fungicide with a different mode of action before reapplying **Insignia** again.

APPLICATION INFORMATION

Apply **Insignia** according to the rate, timing, resistance management and adjuvant use recommendations in the ornamental and landscape maintenance use directions in **Tables 3** and **4** in this label. **Insignia** may be applied by ground sprayer, aerial equipment or through sprinkler and drip irrigation systems.

Foliar and Crown-Directed: Apply **Insignia** at use rates and intervals stated in **Table 3** and **4**. Under light to moderate disease pressure, use the lower rates on a 7-day interval or the higher rates on a 14-day interval. Under environmental conditions that promote severe disease development, use the higher rates on a 7-day interval. Apply **Insignia** as a broadcast or banded spray targeted at the foliage or crown of the plant. Apply to runoff in sufficient water to ensure complete coverage of the target plant. Thorough coverage and wetting of foliage, crown and base of the plant and growth media surrounding the crown is necessary for best control. Refer to **Table 3** for specific use directions for control of specific diseases. Repeat applications at specified intervals (plus alternations for resistance management) for as long as required.

Drench: **Insignia** may be applied preventively as a drench treatment for control of certain soilborne, seedling and crown diseases in production ornamentals. For control of *Rhizoctonia solani* and *Phytophthora* spp., drench the soil with a solution of 8-16 ounces of **Insignia** per 100 gallons. Thorough coverage and wetting of root zone, crown and base of the plant, and surrounding growth media is necessary for best control. Repeat applications

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as needed within 7 to 21 days. See **Table 4** and **6** for more information regarding drench treatments. BASF does not recommend using **Insignia® fungicide** after symptoms of soilborne disease have become evident, as control may not be satisfactory.

Dip Application for Bulbs: Clean and treat bulbs within 24-48 hours of digging. Prepare suspension in water with the amount of **Insignia** stated in **Tables 5** and **6**. Submerge the bulbs completely in the dipping suspension for 15-30 minutes. Discard suspension (1) when it becomes dirty, (2) after using five times, or (3) after 24 hours, whichever occurs first. **DO NOT** discard the runoffs and wastes from the dipping operation in a drainage that could contaminate public water systems.

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Table 3 - Insignia® fungicide - Application Rates and Intervals on Ornamentals and in Landscape Maintenance - Foliar and Crown Diseases.

Disease (Pathogen)	Use Rate per Application (oz Product per 100 gallons) ¹	Application Interval (Days) ²	Comments
Anthracnose <i>Colletotrichum</i> spp. <i>Gloeosporium</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Blossom blight Monilinia blossom blight <i>Monilinia</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Crown and basal rot <i>Rhizoctonia solani</i> <i>Pythium</i> spp. <i>Phytophthora</i> spp. <i>Fusarium</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. The crown and base of the plant and the soil or potting medium surrounding the crown must be thoroughly covered. Use 8-12 oz on herbaceous plants, such as bedding plants. Use 8-16 oz on wood ornamentals.
Downy mildews <i>Peronospora</i> spp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Leaf spots <i>Alternaria</i> spp. <i>Cercospora</i> spp. <i>Mycosphaerella</i> spp.	2-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to or at the first disease symptom development. For control of <i>D. rosae</i> , tank mix with a triazole or mancozeb-containing fungicide.
<i>Didymellina</i> spp. <i>Ramularia</i> spp. <i>Septoria</i> spp.	4-8		
<i>Diplocarpon rosae</i> <i>Entomosporium</i> sp.	8-16		
Powdery mildews <i>Erysiphe</i> sp. <i>Microsphaera</i> sp. <i>Oidium</i> sp. <i>Phyllactinia</i> sp. <i>Podosphaera</i> sp. <i>Sphaerotheca</i> sp. <i>Uncinula</i> sp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to or at the first disease symptom development.
Pythium and Phytophthora aerial blight <i>Pythium</i> spp. <i>Phytophthora</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Use 8-12 oz on herbaceous plants, such as bedding plants. Use 8-16 oz on wood ornamentals. For management of Sudden Oak Death, make a preventative application as a foliar spray providing good coverage of foliage and stems. A wetting agent, such as a spreader-sticker, is recommended on plants with hard-to-wet leaf surfaces and coverage of stems. DO NOT apply this product in a curative manner or post-infection situation. Following two applications of Insignia , rotate to Stature® DM fungicide or Subdue Maxx™ fungicide .
For use on <i>Phytophthora ramorum</i> (Sudden Oak Death-SOD)	16		
Rhizoctonia blight <i>Rhizoctonia solani</i>	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Use 8-12 oz on herbaceous plants, such as bedding plants. Use 8-16 oz on wood ornamentals.
Rots Botrytis rot <i>Botrytis cinerea</i> , <i>B. tulipae</i> Sclerotinia rot <i>Sclerotinia</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.

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Table 3 - Insignia® fungicide - Application Rates and Intervals on Ornamentals and in Landscape Maintenance - Foliar and Crown Diseases (continued)

Disease (Pathogen)	Use Rate per Application (oz Product per 100 gallons) ¹	Application Interval (Days) ²	Comments
Rusts <i>Puccinia</i> spp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
<i>Gymnosporangium</i> spp. <i>Melampsora</i> spp.	8-16		Use higher rates for use on <i>Gymnosporangium</i> and <i>Melampsora</i> spp.
Scab <i>Venturia</i> spp. <i>Cladosporium</i> spp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.

¹ See Table 6 for rate conversions.
² The stated interval applies to conditions under which moderate to high disease pressure is expected. If conditions are unfavorable for infection, or if disease pressure is absent, the interval may be extended up to 28 days.

Table 4 - Insignia - Treatment Rates For Drench Treatments to Control Certain Soil-borne Diseases

Disease (Pathogen)	Use Rate per Application (oz Product per 100 gallons) ¹	Comments
Soil-borne diseases <i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia solani</i>	8-16	Use as a preventative treatment. Drench the soil with a solution of 8-16 ounces of Insignia per 100 gallons. Thorough coverage and wetting of root zone, crown and base of the plant, and surrounding growth media is necessary for best control. Suggested drench volume: 200-250ml per 6-inch pot. Repeat applications as needed within 7 to 21 days.

¹ See Table 6 for rate conversions.

Table 5 - Insignia - Treatment Rates for Dip Treatments of Ornamental Bulbs

Disease (Pathogen)	Use Rate per Application (lb Product per 100 gallons)	Comments
Bulb rot and mold <i>Fusarium</i> spp. <i>Penicillium</i> spp.	5-10	Clean and treat bulbs within 24-48 hours of digging. Prepare suspension in water of recommended amount of Insignia . Submerge the bulbs completely in the dipping suspension for 15-30 minutes. Discard suspension (1) when it becomes dirty, (2) after using five times, or (3) after 24 hours, whichever occurs first. DO NOT discard the runoffs and wastes from the dipping operation in a drainage area, which could contaminate public water systems.

Table 6 - Rate Conversions For Volume-based and Surface Area-based Applications of Insignia in Ornamentals

Spray volume per acre (gallons)	Insignia rate (oz/100 gallons)	Insignia rate (oz/A, lb/A)		Insignia rate (oz/1000 sq feet)	Acres treated per pound of Insignia
100	4	4	0.25	0.09	4
	8	8	0.5	0.18	2
	16	16	1.0	0.37	1
250	4	10	0.63	0.23	1.6
	8	20	1.25	0.46	0.8
	16	40	2.5	0.92	0.4

Table 7 - Insignia® fungicide - Tolerant Plant Species:

Plants in this table have been found to be tolerant to **Insignia** when it is applied according to the use recommendations stated in this label.

The phytotoxic potential of **Insignia** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed. Not all plant species and their varieties and cultivars have been tested for tolerance to **Insignia**, possible tank mix combinations of **Insignia**, pesticide treatments preceding or following those of **Insignia**, and combinations of **Insignia** with adjuvants or surfactants. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using **Insignia**, test the product on a sample of the crop to be treated to ensure that a phytotoxic response will not occur prior to large scale use.

Additives or spray adjuvants are usually not necessary for use with **Insignia**. If they are needed, use only surfactants approved for ornamental plants in combination with **Insignia**. Test the product combination on a sample of the crop to be treated to ensure that a phytotoxic response will not occur prior to large-scale use. **DO NOT** use organosilicon-based adjuvants with **Insignia**, as crop phytotoxicity may result on certain ornamental species.

Host common name (disease code)	Scientific name
African Violet	<i>Saintpaulia ionantha</i>
Ajuga	<i>Ajuga reptans</i>
Almond - nonbearing	<i>Prunus dulcis</i>
Aloe Vera	<i>Aloe vera</i>
Apple - nonbearing	<i>Malus sp</i>
Apricot - nonbearing	<i>Prunus armeniaca</i>
Arborvitae	<i>Thuja sp</i>
Ardisia	<i>Ardisia sp</i>
Arrowwood	<i>Viburnum dentatum</i>
Ash, Red	<i>Fraxinus pennsylvanica</i>
Asian Trache	<i>Lospermum sp</i>
Asparagus Fern	<i>Asparagus densiflorus</i>
Astilbe	<i>Astilbe sp</i>
Aucuba	<i>Aucuba japonica</i>
Avens	<i>Geum chiloense</i>
Azalea	<i>Rhododendron sp</i>
Baby's Breath	<i>Gypsophila repens</i>
Bachelor Button	<i>Centaurea montana</i>
Balloon Flower	<i>Platycodon grandiflorus</i>
Basket-of-Gold	<i>Aurinia saxatilis</i>
Barbados Lily	<i>Hippeastrum vittatum</i>
Barberry, Japanese	<i>Berberis thunbergii</i>
Bayberry (Wax myrtle)	<i>Myrica cerifera</i>
Bee Balm	<i>Monarda didyma</i>
Begonia	<i>Begonia x superfiorenscultorum</i>
Bellflower	<i>Companula glomerata</i>
Blackberry	<i>Vaccinium myrtillus</i>
Black Eyed Susan	<i>Rudbeckia sp</i>
Blanket Flower	<i>Gaillardia grandiflora</i>
Blue Lily Turf	<i>Liriope sp</i>
Boxwood - Japanese, Common	<i>Buxus - B. japonica, B sempervirens</i>
Brachycome, Blue	<i>Brachycome sp</i>
Bridal Wreath	<i>Spiraea vanhouttei</i>
Butterfly Bush	<i>Buddleia sp</i>
Caladium	<i>Caladium sp</i>
Canna	<i>Canna x generalis</i>
Camellia, Japanese	<i>Camellia japonica</i>

Table 7 - Insignia® fungicide - Tolerant Plant species (continued)

Host common name (disease code)	Scientific name
Carnation	<i>Dianthus caryophyllus</i>
Cedar, Japanese	<i>Cryptomeria japonica</i>
Chamaecyparis	<i>Chamaecyparis pisifer</i>
Chestnut, American	<i>Castanea dentata</i>
China - rose	<i>Hibiscus</i> sp.
Chinquapin	<i>Castanea pumila</i>
Cherry - nonbearing	<i>Prunus avium</i> , <i>P. cerasus</i>
Cherry, flowering - Kwanzan	<i>Prunus serrulata</i> 'Kwanzan'
Cherry, flowering - Mt. Fuji (Shirotae)	<i>Prunus serrulata</i> 'Mt. Fuji' (Shirotae)
Chrysanthemum	<i>Chrysanthemum</i> sp.
Citrus - nonbearing	<i>Citrus</i> spp.
Columbine	<i>Aquilegia</i> sp.
Cone Flower	<i>Rudbeckia hirta</i>
Coral Bells	<i>Heuchera</i> sp.
Cortaderia	<i>Cortaderia</i> sp.
Cotoneaster, Cranberry	<i>Cotoneaster apiculatus</i>
Crabapple	<i>Malus</i> sp.
Cranberry, American	<i>Vaccinium macrocarpon</i>
Crape Myrtle	<i>Lagerstroemia indica</i>
Cryptomeria	<i>Cryptomeria</i> sp.
Cupid's Dart	<i>Catananche cerulea</i>
Cyclamen	<i>Cyclamen</i> sp.
Daffodil	<i>Narcissus pseudonarcissus</i>
Dahlia	<i>Dahlia</i> sp.
Daylily	<i>Hemerocallis</i> sp.
Deutzia	<i>Deutzia</i> sp.
Dietes	<i>Dietes vegeta</i>
Dogwood	<i>Cornus</i> sp.
Douglas Fir	<i>Pseudotsuga</i> sp.
Dusty Miller	<i>Centaurea cineraria</i>
Echinacea	<i>Echinacea purpurea</i>
Elder, Water	<i>Sambucus</i> sp.
Elaeagnus (Russian olive)	<i>Elaeagnus augustifolia</i>
Euonymus	<i>Euonymus alata</i>
Fern, Kimberly Queen	<i>Nephrolepis obliterated</i>
Fern, Wood	<i>Dryopteris</i> sp.
Forsythia	<i>Forsythia</i> sp.
Foxglove	<i>Digitalis</i> sp.
Gardenia	<i>Gardenia jasminoides</i>
Gayfeather	<i>Liatris</i> sp.
Gazania	<i>Gazania</i> sp.
Geranium	<i>Pelargonium</i> sp.
Gerbera	<i>Gerbera</i> sp.
Gladiolus	<i>Gladiolus</i> sp.
Globe Thistle	<i>Echinops ritro</i>
Goldbell Tree, Chinese	<i>Forsythia viridissima</i>
Grape, European - nonbearing	<i>Vitis vinifera</i>
Hawthorn - Indian	<i>Rhaphiolepis</i> sp.
Hazel	<i>Corylopsis</i> sp.
Heavenly Bamboo	<i>Nandina domestica</i>
Hemlock, Canada	<i>Tsuga Canadensis</i>
Holly - Chinese, Japanese, Yaupon	<i>Ilex</i> - <i>I. cornuta</i> , <i>I. crenata</i> , <i>I. vomitoria</i>
Hosta	<i>Hosta</i> sp.
Hydrangea	<i>Hydrangea</i> sp.

Table 7 - Insignia® fungicide - Tolerant Plant Species (continued)

Host common name (disease code)	Scientific name
Impatiens - New Guinea, Balsam - non-flowering	<i>Impatiens</i> sp. - non-flowering
Iris	<i>Iris</i> sp.
Ivy - Common, California, English	<i>Hedera</i> sp.
Jasmine, star	<i>Trachelospermum jasminoides</i>
Jessamine	<i>Gelsemium sempervirens</i>
Juniper - Creeping, Chinese	<i>Juniperus</i> - <i>J.hortizontalis</i> , <i>J.chinensis</i>
Lamb's Ear	<i>Stachys byzantina</i>
Lantana	<i>Lantana montevidensis</i>
Larkspur	<i>Delphinium elatum</i>
Leopard's Bane	<i>Doronicum cordatum</i>
Leucophyllum	<i>Leucophyllum</i> sp.
Lilac, common	<i>Syringa</i> sp.
Lily	<i>Lilium</i> sp.
Liriope - Variegated	<i>Liriope muscari variegata</i>
Lisianthus	<i>Eustoma grandiflora</i>
Lobelia	<i>Lobelia</i> sp.
Loropetalum	<i>Loropetalum chinense</i>
Lupine	<i>Lupinus</i> spp.
Magnolia - Star, Saucer	<i>Magnolia</i> - <i>M.stellata</i> , <i>M.soulangiana</i>
Maidenhair Tree	<i>Ginkgo biloba</i>
Mandevilla	<i>Mandevill</i> sp.
Maple - Amur, Japanese, Norway, Sugar, Soft, Negundo	<i>Acer</i> - <i>A. ginnala</i> , <i>A. palmatum</i> , <i>A. platanoides</i> , <i>A. saccharum</i> , <i>A. saccharinum</i> , <i>A. negundo</i>
Marigold	<i>Tagetes</i> sp.
Maudlin, Blue	<i>Ageratum houstonianum</i>
Meadow Sage	<i>Salvia x superba</i>
Monkey Grass	<i>Ophiopogon japonicus</i>
Morning Glory	<i>Ipomoea</i> sp.
Moss, Rose	<i>Portulaca grandiflora</i>
Mountain Laurel	<i>Kalmia laifolia</i>
Myrtle	<i>Myrtus</i> sp.
Myrica cerifera	<i>Myrica cerifera</i>
Narcissus	<i>Narcissus pseudonarcissus</i>
Nectarine - nonbearing	<i>Prunus persica</i>
Oak - Bur, Red	<i>Quercus</i> sp. - <i>Q. macrocarpa</i> , <i>Q. Rubra</i>
Oleander	<i>Nerium oleander</i>
Olive, fragrant tea	<i>Osmanthus fragrans</i>
Pansy	<i>Viola</i> sp.
Peach - nonbearing	<i>Prunus persica</i>
Pear - nonbearing	<i>Pyrus</i> sp.
Pecan - nonbearing	<i>Carya illinoensis</i>
Periwinkle, Madagascar	<i>Catharanthus roseus</i>
Periwinkle, perennial	<i>Vinca major</i> , <i>V. minor</i>
Petunia - non-flowering	<i>Petunia</i> sp. - non-flowering
Phlox	<i>Phlox</i> sp.
Pine - Black, White, Blue, Mugo	<i>Pinus</i> - <i>P.thunbergiana</i> , <i>P.strobus</i> , <i>P.pinea</i> , <i>P.mugo</i>
Pine, European	<i>Abies alba</i>
Pistachio - nonbearing	<i>Pistacia vera</i>
Pittosporum - Japanese	<i>Pittosporum tobira</i>
Plum - nonbearing	<i>Prunus domestica</i>
Plum, Purple leaf	<i>Prunus cerasifera</i>
Poinsettia	<i>Euphorbia pulcherrima</i>

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Table 7 - Insignia® fungicide - Tolerant Plant Species (continued)

Host common name (disease code)	Scientific name
Poplar	<i>Populus trichocarpa, P. deltoides</i>
Primrose	<i>Oenothera speciosa</i>
Privet	<i>Ligustrum sp.</i>
Purple Ornamental Grass	<i>Pennisetum alopecuroides</i>
Purslane	<i>Portulaca sp.</i>
Quince	<i>Chaenomeles sp.</i>
Ranunculus	<i>Ranunculus sp.</i>
Raphiolepis	<i>Raphiolepis sp.</i>
Redbud	<i>Cercia sp.</i>
Redtip Photinia	<i>Photinia fraseri</i>
Redvein Enkianthus	<i>Enkianthus campanulatus</i>
Rhododendron	<i>Rhododendron sp.</i>
Rock Cress	<i>Arabis cansasica</i>
Rose	<i>Rosa sp.</i>
Rose Mallow	<i>Hibiscus moscheutos</i>
Ruellia	<i>Ruellia sp.</i>
Russian arborvitae	<i>Microbiota dueussata</i>
Sage, silverado	<i>Leucophyllum sp.</i>
Sago	<i>Cycas revoluta</i>
Salvia	<i>Salvia coccinea</i>
Scabious, sweet	<i>Scabiosa atropurpurea</i>
Sedum	<i>Sedum sp.</i>
Snapdragon	<i>Antirrhinum sp.</i>
Speedwell	<i>Veronica spicata</i>
Spindle Tree (Burning Bush)	<i>Euonymus sp.</i>
Spiraea	<i>Spiraea sp.</i>
Spruce	<i>Picea sp.</i>
Spurge, Japanese	<i>Pachysandra terminalis</i>
St. John's Wort	<i>Hypericum calycinum</i>
Stonecrop	<i>Sedum sp.</i>
Sweetspire	<i>Itea sp.</i>
Sweet William	<i>Dianthus barbatus</i>
Thrift	<i>Armeria maritima</i>
Tick seed	<i>Coreopsis sp.</i>
Tulip	<i>Tulipa sp.</i>
Verbena	<i>Verbena sp.</i>
Viburnum (Water Elder)	<i>Viburnum sp.</i>
Vinca, annual	<i>Catharanthus roseus</i>
Viola	<i>Viola sp.</i>
Wall Germander	<i>Tenchrinum canadense</i>
Walnut Tree - Black, Common	<i>Juglans - J.nigra, J.regia</i>
Wormwood	<i>Artemisia sp.</i>
Yarrow	<i>Achillea sp.</i>
Zinnia	<i>Zinnia sp.</i>

Table 8 - Plant Species NOT Tolerant to Insignia:

DO NOT expose these species or varieties to Insignia

Grape - Concord, Worden, Fredonia, Niagara	<i>Vitis sp.</i>
Impatiens - flowering	<i>Impatiens - flowering</i>
Nine Bark	<i>Physocarpus opulifolius</i>
Petunia - flowering	<i>Petunia sp. - flowering</i>
Wintercreeper	<i>Euonymus vegetus</i>

Conditions of Sale and Warranty

The **Directions For Use** of this product reflects the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. TO THE EXTENT PERMITTED BY LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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BASF Corporation
Agricultural Products
26 Davis Drive
Research Triangle Park, NC 27709



The Chemical Company

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The Chemical Company

GROUP 11 FUNGICIDE

INSIGNIA® fungicide

Supplemental Labeling

For disease control in ornamentals.

ACCEPTED
with COMMENTS
In EPA Letter Dated

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No. 7969-184
80.0%
100.0%

7969-184

EPA Reg No. 7969-184

Active Ingredients:

Pyraclostrobin (carbamic acid, [2-[[[1-(4-chlorophenyl)-1H-pyrazol-3-yl]oxy]methyl]phenyl]methoxy-,methyl ester)

Other ingredients:

Total

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. **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. Refer to the **Insignia® fungicide** main label, EPA Reg. No. 7969-184, for complete directions for use and all applicable restrictions and precautions. User must have the full **Insignia** container label and this supplemental in possession at the time of pesticide application.

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY OR POOR DISEASE CONTROL.

General Information

Insignia is recommended for control of certain pathogens causing foliar, aerial, and crown rot diseases, including scab, blights, leaf spots, powdery and downy mildews, anthracnose, and rusts of ornamental plants, including flower bulbs and forest and conifer nurseries and plantations.

Use sites include:

- outdoor nurseries
- retail nurseries
- greenhouses, lath- and shade-houses and other enclosed structures
- containers
- residential and commercial landscapes
- interiorscapes
- recreational areas including golf courses

Insignia provides optimum disease control when applied in a regularly scheduled protective fungicide program and is used in a spray program that rotates fungicides with different modes of action.

Integrated Pest (Disease) Management (IPM):

Insignia should be integrated into an overall disease and pest management program that includes selection of vari-

eties with disease tolerance, optimum plant populations, proper fertilization, pruning, plant residue management, proper timing and placement of irrigation, and manipulation of environmental conditions to prevent fungal development where possible.

Resistance Management:

Fungal isolates resistant to **Group 11** (strobilurin or QoI) fungicides, such as pyraclostrobin, azoxystrobin, trifloxystrobin, and kresoxim-methyl, may eventually dominate the fungal population if **Group 11** fungicides are used predominantly and repeatedly in the same area in successive years as the primary method of control for the targeted pathogen species. This may result in reduction of disease control by **Insignia** or other **Group 11** fungicides. **Insignia** should be applied in an alternation or tank mix program with other registered fungicides that have a different mode of action and to which pathogen resistance has not developed. **DO NOT** make more than two (2) sequential applications of **Insignia**. Then alternate with a fungicide of a different mode of action before re-applying **Insignia**. **DO NOT** alternate **Insignia** with other **Group 11** fungicides.

Application Directions - General

Insignia applications should begin prior to disease development and continue throughout the season at specified intervals following resistance management guidelines. **Insignia** works best when used as part of a preventative disease management program. Use of **Insignia** as a late curative or eradicant treatment may not always result in satisfactory disease control. **DO NOT** exceed 15 lbs product per crop acre per year.

Application Directions - Foliar and Crown-Directed

Apply **Insignia** at use rates and intervals stated in **Table 1** and **4**. Under light to moderate disease pressure, use the lower rates on a 7 day interval or the higher rates on a 14 day interval. Under environmental conditions that promote severe disease development, use the higher rates on a 7 day interval. Apply **Insignia** as a broadcast or banded spray

targeted at the foliage or crown of the plant. Apply to runoff in sufficient water to ensure complete coverage of the target plant. Thorough coverage and wetting of foliage, crown and base of the plant and growth media surrounding the crown is necessary for best control. Refer to **Table 1** for specific use directions for control of specific diseases. Repeat applications at specified intervals (plus alternations for resistance management) for as long as required.

Application Directions - Drench

Insignia[®] fungicide may be applied preventively as a drench treatment for control of certain soil-borne, seedling and crown diseases in production ornamentals. For control of *Rhizoctonia solani* and *Phytophthora* spp., drench the soil with a solution of 8-16 ounces of **Insignia** per 100 gallons. Thorough coverage and wetting of root-zone, crown and base of the plant, and surrounding growth media is necessary for best control. Repeat applications as needed within 7 to 21 days. See **Tables 2** and **4** for more information regarding drench treatments. BASF does not recommend using **Insignia** after symptoms of soilborne disease have become evident, as control may not be satisfactory.

Application Directions - Dip Application for Bulbs

Clean and treat bulbs within 24-48 hours of digging. Prepare suspension in water with the amount of **Insignia** stated in **Table 2**. Submerge the bulbs completely in the dipping suspension for 15-30 minutes. Discard suspension (1) when it becomes dirty, (2) after using five times, or (3) after 24 hours, whichever occurs first. **DO NOT** discard the runoffs and wastes from the dipping operation in a drainage that could contaminate public water systems. See **Tables 3** and **4** for more information regarding drench treatments.

Plant Tolerance

The phytotoxic potential of **Insignia** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed. Refer to **Table 5** for the list of plants shown to be tolerant to **Insignia**. Not all plant species and their varieties and cultivars have been tested for tolerance to **Insignia**, possible tank mix combinations of **Insignia**, pesticide treatments preceding or following those of **Insignia**, and combinations of **Insignia** with adjuvants or surfactants. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using **Insignia**, test the product on a sample of the crop to be treated to ensure that a phytotoxic response will not occur prior to large scale use. **DO NOT** expose grapes of varieties Concord, Worden, Fredonia, and Niagara to spray or drift containing **Insignia**, as injury may result. **DO NOT** expose Wintercreeper (*Euonymus vegetus*), Nine Bark (*Physocarpus opulifolius*), or flowering Impatiens (*Impatiens* spp.) or flowering Petunia (*Petunia* sp.) to spray or drift containing **Insignia**, as injury may result (see **Table 6**).

Use with additives

Label directions are based on data without additives. Additives or spray adjuvants are usually not necessary for use with **Insignia**. If so desired, use only surfactants approved for ornamental plants in combination with

Insignia. Test the product on a sample of the crop to be treated to ensure that injury will not occur prior to large scale use. **DO NOT** use organosilicone-based adjuvants with **Insignia**, as injury may result on certain ornamental species. Always test tank mixes on a small group of representative plants prior to broadscale use.

Application Information

Apply **Insignia** according to the rate, timing, resistance management and adjuvant use recommendations in the **Crop Specific Use Directions** in **Tables 1** and **2** in this label. **Insignia** may be applied by ground sprayer, aerial equipment or through sprinkler and drip irrigation systems.

Use Precautions for Sprinkler and Drip Irrigation Applications

Drip Irrigation: **Insignia** may be applied through drip irrigation systems to potted ornamentals or to bedded, field grown ornamentals for soil-borne disease control. Apply 8-16 oz **Insignia** per acre as a preventative disease application. The soil or potting media should have adequate moisture capacity prior to drip application.

Terminate drip irrigation at fungicide depletion from the main feed supply tank or after 6 hours from start, whichever is shorter. For maximum efficacy, subsequent irrigation (water only) should be delayed for at least 24 hours following drip application.

Sprinkler Irrigation: Apply this product through sprinkler irrigation systems including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system except as specified on this label.

Apply with center pivot or continuous-move equipment distributing 1/2 acre-inch or less during treatment. In general, use the least amount of water required for proper distribution and coverage. If stationary systems (solid set, handlines or wheel lines other than continuous-move) are used, this product should be injected into no more than the last 20-30 minutes of the set. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment. Plant injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform treated water. Thorough coverage of foliage is required for good control. Good agitation should be maintained during the entire application period. If you have questions about calibration you should contact a State Extension Service specialist, equipment manufacturers or other experts. 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. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. 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. **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.

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, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a

system interlock.

7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

Restrictions and Limitations

- For outdoor uses, **DO NOT** apply more than a total of 15 pounds of **Insignia**® fungicide per crop acre per year.
- For greenhouse uses, **DO NOT** make more than 8 applications of **Insignia** per year.
- **DO NOT** apply to plants that show injury (leaf phytotoxicity or plant stunting) produced by prior pesticide applications.
- **DO NOT** use on crops intended for food or feed use.
- **DO NOT** use in vegetables grown in greenhouses for crop production, or in vegetable production of transplants for outdoor use.
- **DO NOT** expose the following to spray or drift containing **Insignia**, as injury may result:
 - Grapes of varieties Concord, Worden, Fredonia, and Niagara.
 - Wintercreeper (*Euonymus vegetus*)
 - Nine Bark (*Physocarpus opulifolius*)
 - Flowering Impatiens (*Impatiens* spp.)
 - Flowering Petunia (*Petunia* sp.)
- **Resistance Management:** To limit the potential for development of resistance, do not make more than two (2) sequential applications of **Insignia**. Then alternate to a labeled fungicide with a different mode of action before re-applying **Insignia** again.

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Table 1 - Insignia® fungicide - Application Rates and Intervals on Ornamentals and in Landscape Maintenance - Foliar and Crown Diseases.

Disease (Pathogen)	Use Rate per Application (oz Product per 100 gallons) ¹	Application Interval (Days) ²	Comments
Anthraco <i>Colletotrichum</i> spp. <i>Gloeosporium</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Blossom blight Monilinia blossom blight <i>Monilinia</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Crown and basal rot <i>Rhizoctonia solani</i> <i>Pythium</i> spp. <i>Phytophthora</i> spp. <i>Fusarium</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. The crown and base of the plant and the soil or potting medium surrounding the crown must be thoroughly covered. Use 8-12 oz on herbaceous plants, such as bedding plants. Use 8-16 oz on wood ornamentals.
Downy mildews <i>Peronospora</i> spp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Leaf spots <i>Alternaria</i> spp. <i>Cercospora</i> spp. <i>Mycosphaerella</i> spp.	2-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to or at the first disease symptom development.
<i>Didymellina</i> spp. <i>Ramularia</i> spp. <i>Septoria</i> spp.	4-8		For control of <i>D. rosae</i> , tank mix with a triazole or mancozeb-containing fungicide.
<i>Diplocarpon rosae</i> <i>Entomosporium</i> sp.	8-16		
Powdery mildews <i>Erysiphe</i> sp. <i>Microsphaera</i> sp. <i>Oidium</i> sp. <i>Phyllactinia</i> sp. <i>Podosphaera</i> sp. <i>Sphaerotheca</i> sp. <i>Uncinula</i> sp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to or at the first disease symptom development.
Pythium and Phytophthora aerial blight <i>Pythium</i> spp. <i>Phytophthora</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Use 8-12 oz on herbaceous plants, such as bedding plants. Use 8-16 oz on wood ornamentals.
For use on <i>Phytophthora ramorum</i> (Sudden Oak Death-SOD)	16		For management of Sudden Oak Death, make a preventative application as a foliar spray providing good coverage of foliage and stems. A wetting agent, such as a spreader-sticker, is recommended on plants with hard-to-wet leaf surfaces and coverage of stems. DO NOT apply this product in a curative manner or post-infection situation. Following two applications of Insignia , rotate to Stature® DM fungicide or Subdue Maxx™ fungicide .
Rhizoctonia blight <i>Rhizoctonia solani</i>	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Use 8-12 oz on herbaceous plants, such as bedding plants. Use 8-16 oz on wood ornamentals.
Rots Botrytis rot <i>Botrytis cinerea</i> , <i>B. tulipae</i> Sclerotinia rot <i>Sclerotinia</i> spp.	8-16	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.

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Table 1 - Insignia® fungicide - Application Rates and Intervals on Ornamentals and in Landscape Maintenance - Foliar and Crown Diseases (continued)

Disease (Pathogen)	Use Rate per Application (oz Product per 100 gallons) ¹	Application Interval (Days) ²	Comments
Rusts <i>Puccinia</i> spp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
<i>Gymnosporangium</i> spp. <i>Melampsora</i> spp.	8-16		Use higher rates for use on <i>Gymnosporangium</i> and <i>Melampsora</i> spp.
Scab <i>Venturia</i> spp. <i>Cladosporium</i> spp.	4-8	7 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.

¹ See **Table 4** for rate conversions.

² The stated interval applies to conditions under which moderate to high disease pressure is expected. If conditions are unfavorable for infection, or if disease pressure is absent, the interval may be extended up to 28 days.

Table 2 - Insignia - Treatment Rates For Drench Treatments to Control Certain Soil-borne Diseases

Disease (Pathogen)	Use Rate per Application (oz Product per 100 gallons) ¹	Comments
Soil-borne diseases <i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia solani</i>	8-16	Use as a preventative treatment. Drench the soil with a solution of 8-16 ounces of Insignia per 100 gallons. Thorough coverage and wetting of root zone, crown and base of the plant, and surrounding growth media is necessary for best control. Suggested drench volume: 200-250ml per 6-inch pot. Repeat applications as needed within 7 to 21 days.

¹ See **Table 4** for rate conversions.

Table 3 - Insignia - Treatment Rates for Dip Treatments of Ornamental Bulbs

Disease (Pathogen)	Use Rate per Application (lb Product per 100 gallons)	Comments
Bulb rot and mold <i>Fusarium</i> spp. <i>Penicillium</i> spp.	5-10	Clean and treat bulbs within 24-48 hours of digging. Prepare suspension in water of recommended amount of Insignia . Submerge the bulbs completely in the dipping suspension for 15-30 minutes. Discard suspension (1) when it becomes dirty, (2) after using five times, or (3) after 24 hours, whichever occurs first. DO NOT discard the runoffs and wastes from the dipping operation in a drainage area, which could contaminate public water systems.

Table 4 - Rate Conversions For Volume-based and Surface Area-based Applications of Insignia in Ornamentals

Spray volume per acre (gallons)	Insignia rate (oz/100 gallons)	Insignia rate (oz/A, lb/A)		Insignia rate (oz/1000 sq feet)	Acres treated per pound of Insignia
100	4	4	0.25	0.09	4
	8	8	0.5	0.18	2
	16	16	1.0	0.37	1
250	4	10	0.63	0.23	1.6
	8	20	1.25	0.46	0.8
	16	40	2.5	0.92	0.4

Table 5 - Insignia® fungicide - Tolerant Plant Species

Plants in this table have been found to be tolerant to **Insignia** when it is applied according to the use recommendations stated in this label.

The phytotoxic potential of **Insignia** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed. Not all plant species and their varieties and cultivars have been tested for tolerance to **Insignia**, possible tank mix combinations of **Insignia**, pesticide treatments preceding or following those of **Insignia**, and combinations of **Insignia** with adjuvants or surfactants. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using **Insignia**, test the product on a sample of the crop to be treated to ensure that a phytotoxic response will not occur prior to large scale use.

Additives or spray adjuvants are usually not necessary for use with **Insignia**. If they are needed, use only surfactants approved for ornamental plants in combination with **Insignia**. Test the product combination on a sample of the crop to be treated to ensure that a phytotoxic response will not occur prior to large-scale use. **DO NOT** use organosilicon-based adjuvants with **Insignia**, as crop phytotoxicity may result on certain ornamental species.

Host common name (disease code)	Scientific name
African Violet	<i>Saintpaulia ionantha</i>
Ajuga	<i>Ajuga reptans</i>
Almond - nonbearing	<i>Prunus dulcis</i>
Aloe Vera	<i>Aloe vera</i>
Apple - nonbearing	<i>Malus</i> sp.
Apricot - nonbearing	<i>Prunus armeniaca</i>
Arborvitae	<i>Thuja</i> sp.
Ardisia	<i>Ardisia</i> sp.
Arrowwood	<i>Viburnum dentatum</i>
Ash, Red	<i>Fraxinus pennsylvanica</i>
Asian Trache	<i>Lospermum</i> sp.
Asparagus Fern	<i>Asparagus densiflorus</i>
Astilbe	<i>Astilbe</i> sp.
Aucuba	<i>Aucuba japonica</i>
Avens	<i>Geum chiloense</i>
Azalea	<i>Rhododendron</i> sp.
Baby's Breath	<i>Gypsophila repens</i>
Bachelor Button	<i>Centaurea montana</i>
Balloon Flower	<i>Platycodon grandiflorus</i>
Basket-of-Gold	<i>Aurinia saxatilis</i>
Barbados Lily	<i>Hippeastrum vittatum</i>
Barberry, Japanese	<i>Berberis thunbergii</i>
Bayberry (Wax myrtle)	<i>Myrica cerifera</i>
Bee Balm	<i>Monarda didyma</i>
Begonia	<i>Begonia x superflorescultorum</i>
Bellflower	<i>Companula glomerata</i>
Blackberry	<i>Vaccinium myrtillus</i>
Black Eyed Susan	<i>Rudbeckia</i> sp.
Blanket Flower	<i>Gaillardia grandiflora</i>
Blue Lily Turf	<i>Liriope</i> sp.
Boxwood - Japanese, Common	<i>Buxus - B. japonica, B sempervirens</i>
Brachycome, Blue	<i>Brachycome</i> sp.
Bridal Wreath	<i>Spiraea vanhouttei</i>
Butterfly Bush	<i>Buddleia</i> sp.
Caladium	<i>Caladium</i> sp.
Canna	<i>Canna x generalis</i>
Camellia, Japanese	<i>Camellia japonica</i>

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Table 5 - Insignia® fungicide - Tolerant Plant species (continued)

Host common name (disease code)	Scientific name
Carnation	<i>Dianthus caryophyllus</i>
Cedar, Japanese	<i>Cryptomeria japonica</i>
Chamaecyparis	<i>Chamaecyparis pisifer</i>
Chestnut, American	<i>Castanea dentata</i>
China - rose	<i>Hibiscus</i> sp.
Chinquapin	<i>Castanea pumila</i>
Cherry - nonbearing	<i>Prunus avium</i> , <i>P. cerasus</i>
Cherry, flowering - Kwanzan	<i>Prunus serrulata</i> 'Kwanzan'
Cherry, flowering - Mt. Fuji (Shirotae)	<i>Prunus serrulata</i> 'Mt. Fuji' (Shirotae)
Chrysanthemum	<i>Chrysanthemum</i> sp.
Citrus - nonbearing	<i>Citrus</i> spp.
Columbine	<i>Aquilegia</i> sp.
Cone Flower	<i>Rudbeckia hirta</i>
Coral Bells	<i>Heuchera</i> sp.
Cortaderia	<i>Cortaderia</i> sp.
Cotoneaster, Cranberry	<i>Cotoneaster apiculatus</i>
Crabapple	<i>Malus</i> sp.
Cranberry, American	<i>Vaccinium macrocarpon</i>
Crape Myrtle	<i>Lagerstroemia indica</i>
Cryptomeria	<i>Cryptomeria</i> sp.
Cupid's Dart	<i>Catananche cerulea</i>
Cyclamen	<i>Cyclamen</i> sp.
Daffodil	<i>Narcissus pseudonarcissus</i>
Dahlia	<i>Dahlia</i> sp.
Daylily	<i>Hemerocallis</i> sp.
Deutzia	<i>Deutzia</i> sp.
Dietes	<i>Dietes vegeta</i>
Dogwood	<i>Cornus</i> sp.
Douglas Fir	<i>Pseudotsuga</i> sp.
Dusty Miller	<i>Centaurea cineraria</i>
Echinacea	<i>Echinacea purpurea</i>
Elder, Water	<i>Sambucus</i> sp.
Elaeagnus (Russian olive)	<i>Elaeagnus augustifolia</i>
Euonymus	<i>Euonymus alata</i>
Fern, Kimberly Queen	<i>Nephrolepis obliterated</i>
Fern, Wood	<i>Dryopteris</i> sp.
Forsythia	<i>Forsythia</i> sp.
Foxglove	<i>Digitalis</i> sp.
Gardenia	<i>Gardenia jasminoides</i>
Gayfeather	<i>Liatris</i> sp.
Gazania	<i>Gazania</i> sp.
Geranium	<i>Pelargonium</i> sp.
Gerbera	<i>Gerbera</i> sp.
Gladiolus	<i>Gladiolus</i> sp.
Globe Thistle	<i>Echinops ritro</i>
Goldbell Tree, Chinese	<i>Forsythia viridissima</i>
Grape, European - nonbearing	<i>Vitis vinifera</i>
Hawthorn - Indian	<i>Raphiolepis</i> sp.
Hazel	<i>Corylopsis</i> sp.
Heavenly Bamboo	<i>Nandina domestica</i>
Hemlock, Canada	<i>Tsuga Canadensis</i>
Holly - Chinese, Japanese, Yaupon	<i>Ilex</i> - <i>I. cornuta</i> , <i>I. crenata</i> , <i>I. vomitoria</i>
Hosta	<i>Hosta</i> sp.
Hydrangea	<i>Hydrangea</i> sp.

Table 5 - Insignia® fungicide - Tolerant Plant Species (continued)

Host common name (disease code)	Scientific name
Impatiens - New Guinea, Balsam - non-flowering	<i>Impatiens</i> sp. - non-flowering
Iris	<i>Iris</i> sp.
Ivy - Common, California, English	<i>Hedera</i> sp.
Jasmine, star	<i>Trachelospermum jasminoides</i>
Jessamine	<i>Gelsemium sempervirens</i>
Juniper - Creeping, Chinese	<i>Juniperus</i> - <i>J. horizontalis</i> , <i>J. chinensis</i>
Lamb's Ear	<i>Stachys byzantina</i>
Lantana	<i>Lantana montevidensis</i>
Larkspur	<i>Delphinium elatum</i>
Leopard's Bane	<i>Doronicum cordatum</i>
Leucophyllum	<i>Leucophyllum</i> sp.
Lilac, common	<i>Syringa</i> sp.
Lily	<i>Lilium</i> sp.
Liriope - Variegated	<i>Liriope muscari variegata</i>
Lisianthus	<i>Eustoma grandiflora</i>
Lobelia	<i>Lobelia</i> sp.
Loropetalum	<i>Loropetalum chinense</i>
Lupine	<i>Lupinus</i> spp.
Magnolia - Star, Saucer	<i>Magnolia</i> - <i>M. stellata</i> , <i>M. soulangiana</i>
Maidenhair Tree	<i>Ginkgo biloba</i>
Mandevilla	<i>Mandevilla</i> sp.
Maple - Amur, Japanese, Norway, Sugar, Soft, Negundo	<i>Acer</i> - <i>A. ginnala</i> , <i>A. palmatum</i> , <i>A. platanoides</i> , <i>A. saccharum</i> , <i>A. saccharinum</i> , <i>A. negundo</i>
Marigold	<i>Tagetes</i> sp.
Maudlin, Blue	<i>Ageratum houstonianum</i>
Meadow Sage	<i>Salvia x superba</i>
Monkey Grass	<i>Ophiopogon japonicus</i>
Morningglory	<i>Ipomoea</i> sp.
Moss, Rose	<i>Portulaca grandiflora</i>
Mountain Laurel	<i>Kalmia latifolia</i>
Myrtle	<i>Myrtus</i> sp.
Myrica cerifera	<i>Myrica cerifera</i>
Narcissus	<i>Narcissus pseudonarcissus</i>
Nectarine - nonbearing	<i>Prunus persica</i>
Oak - Bur, Red	<i>Quercus</i> sp. - <i>Q. macrocarpa</i> , <i>Q. Rubra</i>
Oleander	<i>Nerium oleander</i>
Olive, fragrant tea	<i>Osmanthus fragrans</i>
Pansy	<i>Viola</i> sp.
Peach - nonbearing	<i>Prunus persica</i>
Pear - nonbearing	<i>Pyrus</i> sp.
Pecan - nonbearing	<i>Carya illinoensis</i>
Periwinkle, Madagascar	<i>Catharanthus roseus</i>
Periwinkle, perennial	<i>Vinca major</i> , <i>V. minor</i>
Petunia - non-flowering	<i>Petunia</i> sp. - non-flowering
Phlox	<i>Phlox</i> sp.
Pine - Black, White, Blue, Mugo	<i>Pinus</i> - <i>P. thunbergiana</i> , <i>P. strobus</i> , <i>P. pinea</i> , <i>P. mugo</i>
Pine, European	<i>Abies alba</i>
Pistachio - nonbearing	<i>Pistacia vera</i>
Pittosporum - Japanese	<i>Pittosporum tobira</i>
Plum - nonbearing	<i>Prunus domestica</i>
Plum, Purple leaf	<i>Prunus cerasifera</i>
Poinsettia	<i>Euphorbia pulcherrima</i>

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Table 5 - Insignia® fungicide - Tolerant Plant Species (continued)

Host common name (disease code)	Scientific name
Poplar	<i>Populus trichocarpa, P. deltoides</i>
Primrose	<i>Oenothera speciosa</i>
Privet	<i>Ligustrum</i> sp.
Purple Ornamental Grass	<i>Pennisetum alopecuroides</i>
Purslane	<i>Portulaca</i> sp.
Quince	<i>Chaenomeles</i> sp.
Ranunculus	<i>Ranunculus</i> sp.
Raphiolepis	<i>Raphiolepis</i> sp.
Redbud	<i>Cercia</i> sp.
Redtip Photinia	<i>Photinia fraseri</i>
Redvein Enkianthus	<i>Enkianthus campanulatus</i>
Rhododendron	<i>Rhododendron</i> sp.
Rock Cress	<i>Arabis cancasica</i>
Rose	<i>Rosa</i> sp.
Rose Mallow	<i>Hibiscus moscheutos</i>
Ruellia	<i>Ruellia</i> sp.
Russian arborvitae	<i>Microbiota dueussata</i>
Sage, silverado	<i>Leucophyllum</i> sp.
Sago	<i>Cycas revoluta</i>
Salvia	<i>Salvia coccinea</i>
Scabious, sweet	<i>Scabiosa atropurpurea</i>
Sedum	<i>Sedum</i> sp.
Snapdragon	<i>Antirrhinum</i> sp.
Speedwell	<i>Veronica spicata</i>
Spindle Tree (Burning Bush)	<i>Euonymus</i> sp.
Spirea	<i>Spiraea</i> sp.
Spruce	<i>Picea</i> sp.
Spurge, Japanese	<i>Pachysandra terminalis</i>
St. John's Wort	<i>Hypericum calycinum</i>
Stonecrop	<i>Sedum</i> sp.
Sweetspire	<i>Itea</i> sp.
Sweet William	<i>Dianthus barbatus</i>
Thrift	<i>Armeria maritima</i>
Tick seed	<i>Coreopsis</i> sp.
Tulip	<i>Tulipa</i> sp.
Verbena	<i>Verbena</i> sp.
Viburnum (Water Elder)	<i>Viburnum</i> sp.
Vinca, annual	<i>Catharanthus roseus</i>
Viola	<i>Viola</i> sp.
Wall Germander	<i>Tenchrinum canadense</i>
Walnut Tree - Black, Common	<i>Juglans - J.nigra, J.regia</i>
Wormwood	<i>Artemisia</i> sp.
Yarrow	<i>Achillea</i> sp.
Zinnia	<i>Zinnia</i> sp.

**Table 6 - Plant Species NOT Tolerant to Insignia:
DO NOT expose these species or varieties to Insignia**

Grape - Concord, Worden, Fredonia, Niagara	<i>Vitis</i> sp.
Impatiens - flowering	<i>Impatiens</i> - flowering
Nine Bark	<i>Physocarpus opulifolius</i>
Petunia - flowering	<i>Petunia</i> sp. - flowering
Wintercreeper	<i>Euonymus vegetus</i>

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