OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
WASHINGTON, D.C. 20460

1/6/2026

Quinn Peacock
Regulatory Affairs Manager
BASF Agricultural Solutions US LLC
2 TW Alexander Drive
Research Triangle Park, NC 27713

Subject: Label Amendment - Registration Review Mitigation for Boscalid
Product Name: Emerald Fungicide
EPA Registration Number: 7969-196
Case Number: 482893
Application Dates: 12/14/2020

Dear Quinn Peacock:

The Agency, in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Boscalid Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may

distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

If you have any questions about this letter, please contact Samantha Thomas by phone at 202-566-2368, or via email at thomas.samantha@epa.gov.

Sincerely,

Cathryn Britton
Chief, Risk Management and Implementation Branch V
Pesticide Re-evaluation Division (7508M)
Office of Pesticide Programs

ENCLOSURE: Stamped label

Boscalid	Group	7	Fungicide

Emerald®

Fungicide

For disease control on golf course turfgrass and ornamentals

Active Ingredient:

Boscalid: 3-pyridinecarboxamide, 2-chloro-N-(4'-chloro(1,1'-biphenyl)-2-yl)-	70.0%
Other Ingredients:	30.0%
Total:	100.0%

EPA Reg. No. 7969-196 **EPA Est. No.**

KEEP OUT OF REACH OF CHILDREN

WARNING/AVISO

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

See inside booklet for complete **First Aid**, **Precautionary Statements**, **Directions For Use**, **Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call 1-800-832-HELP (4357).

Net Contents:

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

BASF
We create chemistry

FIRST AID	
If in eyes	• Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • **DO NOT** induce vomiting unless told to do so by a poison control center or doctor. • **DO NOT** give anything by mouth to an unconscious person.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE 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

WARNING. Causes substantial but temporary eye injury. Harmful if absorbed through skin. Harmful if swallowed. **DO NOT** get in eyes or on clothing. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Protective eyewear (goggles, face shield, or safety glasses)
- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, 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.

Environmental Hazards

DO NOT apply directly to water, areas where surface water is present, or to intertidal areas below the high water mark. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

GROUNDWATER ADVISORY

Boscalid is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

SURFACE WATER ADVISORY

DO NOT apply directly to water, areas where surface water is present, or to intertidal areas below the high water mark. **DO NOT** contaminate water when disposing of equipment washwaters. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of boscalid from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

DO NOT discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. **DO NOT** discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

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. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

This product is for golf course and ornamentals use only. Not for use on residential turfgrass, turfgrass being grown for sale, or other commercial use such as sod production, seed production, or for research purposes.

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

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 to workers, and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours** for all crops.

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 barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for 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. DO NOT store at extreme temperatures. Store in a dry place away from heat or open flame.

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

(for paper or plastic bags)
Nonrefillable Container. DO NOT reuse or refill this container. After completely emptying container into application equipment, dispose of empty bag in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 50 pounds) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

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 material is released or spilled:
Wear the personal protective equipment specified on the label. Recover the material for reuse according to the label whenever possible. Sweep and/or shovel up the spilled material into an appropriate closed container. Avoid the creation of dusty conditions. Remove and wash clothing and personal protective equipment prior to reuse. Keep the spill out of all sewers and open bodies of water.

Product Information

Emerald® fungicide is a systemic anilide fungicide for the control of dollar spot *(Sclerotinia homoeocarpa)* and bentgrass dead spot *(Ophiosphaerella agrostis)* in turfgrass grown on golf courses and for several foliar and soilborne diseases in greenhouse and outdoor ornamentals. See Ornamentals section and **Table 3. Use Sites and Application Techniques for Ornamentals and Flower Bulbs** for additional use sites. Optimum disease control is achieved when **Emerald** is applied in a regularly scheduled preventive spray program and is used in a rotation program with other effective fungicides. Because of its high specific activity, **Emerald** has good residual activity against target fungi.

For the control of turfgrass and ornamental diseases not listed on this label, **Emerald** may be tank mixed with labeled rates of other fungicides. Follow label directions of any tank mix product and apply at the specified rate based on target disease. All applications should be made according to the use directions that follow. Failure to follow directions and precautions on this label may result in turfgrass and ornamentals injury and/or inferior disease control.

Resistance Management

For resistance management, please note that **Emerald** contains a **Group 7** fungicide. Any fungal population may contain individuals naturally resistant to **Emerald** and other **Group 7** fungicides. A gradual or total loss of pest control may occur over time if fungicides from this group are used repeatedly in the same fields. Appropriate resistance management strategies must be followed. **Emerald** is effective against pathogens resistant to fungicides with modes of action different from those of carboxamide (anilide) fungicides (target site **Group 7**), including dicarboximides, sterol inhibitors, or benzimidazoles. Fungal isolates resistant to **Group 7** fungicides may eventually dominate the fungal population if **Group 7** fungicides are used predominantly and repeatedly in the same field in successive years as the primary method of control for the targeted pathogen species. This may result in reduction of disease control of **Emerald** or other **Group 7** fungicides.

To maintain the performance of **Emerald**, **DO NOT** exceed the specified application rate and **DO NOT** make more than two (2) sequential applications. Alternate to another effective fungicide with a different mode of action group that controls the same pathogen before reapplying **Emerald**. **DO NOT** alternate **Emerald** with other **Group 7** fungicides.

To delay the development of fungicide resistance:

- **Rotate** - Rotate the use of **Emerald** or other **Group 7** fungicides within a growing season sequence with different mode of action groups that control the same pathogens.
- **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. Use at least the minimum labeled rates of each fungicide in the tank mix.
- **Integrated Pest Management (IPM)** - Integrate **Emerald** into an overall disease and pest management program that includes scouting, uses historical information related to pesticide use and crop rotation, considers host plant resistance, and the impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices. Follow cultural practices known to reduce disease development. Consult your local extension specialist, certified crop advisor and/or BASF representative for additional IPM strategies established for your area. **Emerald** may be used in Agricultural Extension advisory (disease forecasting) programs which base application timing on environmental factors favorable for disease development.
- **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. Monitor treated fungal/bacterial populations for resistance development.
- **Reporting** - If a **Group 7** target site fungicide, including **Emerald**, appears to be less effective or no longer effective against a pathogen that it previously controlled or suppressed, contact a BASF representative, local extension specialist, or certified crop advisor to assist in determining the cause of reduced performance and to report resistance.

Golf Course Turfgrass

Application Information

Emerald is a systemic fungicide for the control of dollar spot and bentgrass dead spot of golf course turfgrass. **Emerald** may be applied as a solo foliar spray or in tank mixes with other registered turfgrass fungicides. **DO NOT** exceed the specified application rate or fail to comply with use restrictions listed in the **Resistance Management** and **Restrictions and Limitations** for **Golf Course Turfgrass**. All applications should be made according to the use directions that follow.

Uses and Tolerances

Emerald® fungicide can be used only on turf grown on golf courses. Due to variability within turfgrass species, application techniques and possible tank mixes, neither the manufacturer nor the seller has determined if **Emerald** has adequate tolerance on all turfgrasses under all conditions. Therefore, apply the specified rate of **Emerald** on a small test area under conditions expected to be encountered and monitor for any adverse effects before applying **Emerald** to the targeted area.

Spray Instructions

For maximum efficacy, **Emerald** should be applied prior to or in the early stages of disease development. For maximum efficacy, apply **Emerald** at the rates indicated in **Table 1. Application Rates and Intervals for Emerald® fungicide on Golf Course Turfgrass** 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.

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

DO NOT make more than two (2) sequential applications of Emerald for disease control, especially for dollar spot or bentgrass dead spot in golf course turfgrass. Then alternate to another effective fungicide before reapplying Emerald.

MANDATORY SPRAY DRIFT MANAGEMENT

Ground Boom Applications

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground.
- Applicators are required to use nozzles and pressure that deliver a medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NONTARGET SITES AND ENVIRONMENTAL CONDITIONS.

Boomless Ground Applications

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications

Take precautions to minimize spray drift.

Importance of Droplet Size

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Ground Boom

- **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Boom Height - Ground Boom

For ground equipment, the boom should remain level with the turf and have minimal bounce.

Shielded Sprayers

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

Temperature and Humidity

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

Wind

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Addition of Additives for Golf Course Turfgrass

Due to the large number of additives or adjuvants that may be used, neither the manufacturer nor the seller has determined whether **Emerald® fungicide** can be used safely with all additives on golf course turfgrass.

Tank Mixing Information for Golf Course Turfgrass

Tank Mix Partners/Components

Emerald is compatible with most fungicide, insecticide and fertilizer products. If tank mixtures are used, adhere to restrictions due to rates, label directions and precautions on all labels. Physical incompatibility, reduced disease control, or turfgrass injury may result from mixing **Emerald** with fungicides, herbicides, insecticides, additives, or fertilizers. To improve control of certain diseases, **Emerald** may be tank mixed with other effective fungicides such as **Curalan® EG fungicide**, **Iprodione Pro fungicide** or **Propiconazole Pro fungicide**.

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 label rate per acre.

1. **Water.** For 87 gallons per acre (2 gallons per 1000 square feet) 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 1/2 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 **Emerald**, 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 **Emerald**.

Restrictions and Limitations for Golf Course Turfgrass

- Maximum seasonal use rate: **DO NOT** apply more than a total of 1.1 ounces of **Emerald** per 1000 sq ft per year (48 ounces **Emerald** per acre per year).
- Refer to **Specific Use Directions** for sequential application intervals for **Emerald**.
- **DO NOT** apply this product to turfgrass except for golf course turfgrass.
- **DO NOT** apply through any type of irrigation equipment.
- This product cannot be used to formulate or reformulate any other pesticide product.

Specific Use Directions for Golf Course Turfgrass

Use **Emerald** for the control of dollar spot and bentgrass dead spot in golf course turfgrass. For maximum efficacy, **Emerald** should be applied prior to or in the early stages of disease development. Apply **Emerald** at the rates indicated in **Table 1. Application Rates and Intervals for Emerald® fungicide on Golf Course Turfgrass** 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.

Table 1. Application Rates and Intervals for Emerald® fungicide on Golf Course Turfgrass

Disease (Pathogen)	**Rate (oz Emerald per 1000 square feet)**	**Rate (ozs Emerald per acre)**	**Application Intervals (days)**	**Comments**
Dollar spot *(Sclerotinia homoeocarpa)*	0.13 to 0.18	5.7 to 8.0	14 to 28	Begin applications prior to or in the early stages of disease development. Use the shorter specified application interval and/or the higher specified rate when prolonged favorable disease conditions exist.
Bentgrass dead spot *(Ophiosphaerella agrostis)*	0.18	8.0	14	

DO NOT apply more than two (2) sequential applications of **Emerald**. Then alternate to another effective fungicide before reapplying **Emerald**.

Table 2. Dilution Table for Spray Solutions of Emerald

Emerald Use Rate (oz per 1000 sq ft)	ozs **Emerald** per 100 gallons spray solution		
	Spray Volume 2 gallons per 1000 sq ft	**Spray Volume 3 gallons per 1000 sq ft**	**Spray Volume 4 gallons per 1000 sq ft**
0.13	6.5	4.3	3.3
0.18	9.0	6.0	4.5

Ornamentals

Use not permitted in California unless otherwise directed by supplemental labeling.

Application Information

Emerald provides optimum disease control when applied in a regularly scheduled protective fungicide program and used in a spray program that rotates fungicides with different modes of action. Refer to the specific use directions and restrictions found in this label.

Use **Emerald** for control of certain foliar and soilborne diseases, including blights, rots, leaf spots, and powdery mildews of ornamental plants. **Emerald** may be used to control certain diseases of container, bench, flat, plug, bedgrown or field-grown ornamentals grown in outdoor nurseries, retail nurseries, forest and conifer nurseries and plantations, golf courses, residential and commercial landscapes, interiorscapes, greenhouses, lathhouses, shadehouses, and containers.

DO NOT exceed the application rate or fail to comply with the use restrictions listed in the **Resistance Management** and **Restrictions and Limitations** sections. Make all applications 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.

Begin **Emerald** applications prior to disease development and continue throughout the season at specified intervals following resistance management guidelines. **Emerald** works best when used as part of a preventive disease management program. Use of **Emerald** as a late curative or eradicant treatment may not always result in satisfactory disease control. **DO NOT** exceed 3.0 lbs (48 ozs) product per use site acre per year.

Uses and Tolerances

The phytotoxic potential of **Emerald** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed. Refer to **Table 8. Emerald® fungicide Tolerant Plant Species** for the list of plants shown to be tolerant to **Emerald**. Not all plant species and their varieties and cultivars have been tested for tolerance to **Emerald**, possible tank mix combinations of **Emerald**, pesticide treatments preceding or following those of **Emerald**, and combinations of **Emerald** with adjuvants or surfactants. Local conditions can also influence plant tolerance and may not match those under which BASF has conducted testing.

Therefore, before using **Emerald**, test the product on a sample of the plant to be treated to ensure that a phytotoxic response will not occur prior to large-scale use.

Apply **Emerald** according to the instructions, rate, timing, resistance management and adjuvant use recommendations in the use directions in **Table 3**, **Table 4**, **Table 5**, **Table 6** and the **Addition of Additives** text sections, in this label. **Emerald** may be applied by ground **sprayers such as tractor groundboom, backpack/handboom, handwand, etc.; aerial spray with fixed-wing aircraft or helicopter; and by chemigation using sprinkler and drip irrigation.**

Aerial Application Directions

Emerald may be applied aerially to field-grown nursery plants using a minimum of 10 gallons per acre of finished spray solution. Use the **Emerald** rate per 100 gallons in **Table 4. Emerald® fungicide Application Rates and Intervals on Ornamentals Foliar Diseases** concentrated into 10 gallons per acre only for aerial applications. **DO NOT** apply aerially when environmental conditions favor drift from target area. Drift potential is lowest when

wind speed does not exceed 10 mph. See **Mandatory Spray Drift Management**.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications

- **DO NOT** release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use nozzles and pressure that deliver a medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters
- If the windspeed is 10 miles per hour or less, applicators must use 1/2 swath displacement upwind at the downwind edge of the field. When the windspeed is between 11 to 15 miles per hour, applicators must use 3/4 swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply during temperature inversions.

Airblast applications

- Sprays must be directed into the canopy.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- **DO NOT** apply during temperature inversions.

Ground Boom Applications

- User must only apply with the release height recommended by the manufacturer, but no more than 4 ft above the ground.
- Applicators are required to use nozzles and pressure that deliver a medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NONTARGET SITES AND ENVIRONMENTAL CONDITIONS.

Boomless Ground Applications

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications

Take precautions to minimize spray drift.

Importance of Droplet Size

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Aircraft

Adjust Nozzles - Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

Controlling Droplet Size - Ground Boom

- **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Release Height - Aircraft

Higher release heights increase the potential for spray drift.

Boom Height - Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

Shielded Sprayers

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

Temperature and Humidity

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

Wind

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Table 3. Use Sites and Application Techniques for Ornamentals and Flower Bulbs

Use Sites	Application Techniques	Application Equipment
Outdoor nurseries (container, bench, flat, plug, bed-grown or field-grown)	Ground (foliar spray or drench) Chemigation Aerial (foliar spray)	Tractor ground-boom, backpack, handwand Sprinkler and drip irrigation Aircraft (fixed-wing and helicopter)
Retail nurseries	Ground (foliar spray or drench)	Tractor ground-boom, backpack, handwand
Forest and conifer nurseries and plantations	Ground (foliar spray) Aerial (foliar spray)	Tractor ground-boom, backpack, handwand Aircraft (fixed-wing and helicopter)
Greenhouses, lathhouses and shadehouses	Ground (foliar spray or drench)	Tractor ground-boom, backpack, handwand
Containers	Ground (foliar spray or drench)	Tractor ground-boom, backpack, handwand
Residential and commercial landscapes	Ground (foliar spray)	Tractor ground-boom, backpack, handwand
Interiorscapes	Ground (foliar spray)	Backpack, handwand
Recreational areas such as parks and sports fields where ornamentals and bulbs are present	Ground (foliar spray)	Tractor ground-boom, backpack, handwand

Use Precautions for Sprinkler and Drip Irrigation Applications

Drip Irrigation. Emerald® fungicide may be applied through drip irrigation systems to potted ornamentals or to bedded, field-grown ornamentals for soilborne disease control. Apply 8 to 16 ozs **Emerald** per acre as a preventive disease application. The soil or potting media must have adequate moisture capacity prior to drip application.

Terminate drip irrigation at fungicide depletion 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. Emerald may be applied by sprinkler irrigation to potted ornamentals or to bedded, field-grown ornamentals. 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, apply this product by injection into no more than the last 20 to 30 minutes of the set.

DO NOT spray when conditions favor drift beyond the area intended for application. Plant injury and lack of effectiveness can occur with misapplication or drift. 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, contact state extension service specialists, 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 backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system must 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 2 times 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 that 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.

Emerald® fungicide 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 **Emerald**. Then alternate with a fungicide of a different mode of action before reapplying **Emerald**. **DO NOT** alternate **Emerald** with other **Group 7** fungicides.

Addition of Additives and Tank Mixing Information for Ornamentals

Emerald can be tank mixed with most recommended fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants, and additives for use on ornamentals.

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

If tank mixtures are used, adhere to restrictions due to rates, label directions and precautions on all labels.

Under some conditions, the use of additives or adjuvants may improve the performance of **Emerald**. However, all varieties and cultivars have not been tested with possible tank mix combinations. Local conditions can also influence plant tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, or plant injury may result from mixing **Emerald** with other products. Therefore, before using any tank mix (fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants, and additives), test the combination on a small portion of the plant to be treated to ensure that a phytotoxic response will not occur as a result of application.

Consult a BASF representative or local agricultural authorities for more information concerning additives.

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 label rate per acre.

1. **Water.** For 100 gallons per acre spray volume, use 16 cups (1 gallon) 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, or fine particles that precipitate to the bottom, or thick (clabbered) texture. **DO NOT** use any spray solution that could clog spray nozzles.

Mixing Order

1. **Water.** Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.
2. **Agitation.** Maintain constant agitation throughout mixing and application.
3. **Inductor.** If an inductor is used, rinse it thoroughly after each component has been added.
4. **Products in PVA bags.** Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and

the product is evenly mixed in the spray tank before continuing.
5. **Water-dispersible products** (such as **Emerald® fungicide**, dry flowables, wettable powders, suspension concentrates, or suspo-emulsions).
6. **Water-soluble products.**
7. **Emulsifiable concentrates** (such as oil concentrates when applicable).
8. **Water-soluble additives** [such as ammonium sulfate (AMS) or urea ammonium nitrate (UAN) when applicable].
9. **Remaining quantity of water.**

Make sure that each component is thoroughly mixed and suspended before adding tank mix partners. Maintain constant agitation during 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 plants was used prior to **Emerald**.

Restrictions and Limitations for Ornamentals

- **DO NOT** apply more than a total of 3.0 pounds (48 ozs) of **Emerald** per use site acre 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 grapes of varieties Concord, Fredonia, Niagara, Noiret (NY73.0136.17), Rougeon, Steuben, and Worden to spray or drift containing **Emerald** because injury may result.

Specific Use Directions for Ornamentals

Application Directions

Foliar-directed and Crown-directed
Apply **Emerald** at use rates and intervals stated in **Table 4. Emerald® fungicide Application Rates and Intervals on Ornamentals Foliar Diseases** and **Table 7. Rate Conversions for Volume-based and Surface Area-based Applications of Emerald**. Apply **Emerald** 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 4. Emerald® fungicide Application Rates and Intervals on Ornamentals Foliar Diseases** 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
Emerald may be applied preventively as a drench treatment for control of certain soilborne, seedling and crown diseases in production ornamentals including *Rhizoctonia solani* and Fusarium spp. For control of *Phytophthora* spp. and *Pythium* spp., apply **Emerald** in tank mix with another fungicide effective against these diseases.

Thorough coverage and wetting of root zone, crown and base of the plant and surrounding growth media is necessary for best control. Use enough solution to wet the root zone of the plant. Provide a well-drained substrate at the time of application. Avoid watering plants for several hours before application to improve plant uptake of the product. Repeat applications as needed within 7 to 21 days.

Applications made to plugs and propagation trays or beds: Use a broadcast or directed spray applied in sufficient water to obtain thorough coverage of the plant crown and plant stem with thorough wetting of the soil surface.

See **Table 5. Emerald Treatment Rates for Drench Treatments to Control Certain Soilborne Diseases** and **Table 6. Emerald® fungicide Treatment Rates for Dip Treatments of Ornamental Bulbs** for more information regarding drench treatments. BASF does not recommend using **Emerald** alone after symptoms of soilborne disease have become evident because control may not be satisfactory.

Dip Application for Bulbs
Postharvest dipping of bulbs for the reduction of basal rot and blue mold on freshly dug plant material: Clean and treat bulbs within 24 to 48 hours of digging. Follow instructions below for preparing dip mixture, dipping and drying of bulbs.

Preplant dipping for basal rot on bulbs prior to planting into fields or bulbs used in containers: Start with clean, dry bulbs. Follow instructions below for preparing dip mixture, dipping and drying of bulbs.

Instructions for preparing Emerald mixture, dipping and drying of bulbs: Prepare mixture in water with the amount of **Emerald** stated in **Table 6. Emerald® fungicide Treatment Rates for Dip Treatments of Ornamental Bulbs**.

Keep dip mixture well agitated prior to and during the submersion of bulbs so that **Emerald** is uniformly dispersed. Submerge the bulbs completely in the dipping mixture for 15 to 30 minutes. Follow normal drying procedures, such as allowing a minimum of 2 days for bulb drying when using a forced-air rack and/or greater drying time when using ambient air conditions while holding bulbs in racks or bins.

Discard mixture:
1. When it becomes dirty or
2. After using 5 times or
3. After 24 hours, whichever occurs first

Table 4. Emerald® fungicide Application Rates and Intervals on Ornamentals Foliar Diseases

Disease (Pathogen)	**Product Use Rate per Application (ozs product per 100 gallons)**	**Application Interval (days)***
Powdery mildews *Oidium* spp. *Sphaerotheca* spp. *Uncinula* spp.	4 to 8	7 to 10
Leaf spots *Alternaria* spp.	4 to 8	7 to 14
Rots, Blights Botrytis rot *Botrytis* spp.	8 to 16	7 to 14
Blossom blight Monilinia blossom blight *Monilinia* spp.	4 to 8	7 to 14
Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. * 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 5. Emerald Treatment Rates for Drench Treatments to Control Certain Soilborne Diseases

Disease (Pathogen)	**Product Use Rate per Application (ozs product/100 gallons)**	**Comments**
Soilborne disease *Fusarium* spp. *Rhizoctonia solani* *Sclerotinia* spp.	12 to 16	Use as a preventive treatment. Drench the soil with a solution of 12 to 16 ozs of **Emerald** 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. Use enough solution to wet the root zone of the plant. Provide a well-drained substrate at the time of application. Avoid watering plants for several hours before application to improve plant uptake of the product. Repeat applications as needed within 7 to 21 days. **Applications made to plugs and propagation trays or beds:** Use a broadcast or directed spray applied in sufficient water to obtain thorough coverage of the plant crown and plant stem with thorough wetting of the soil surface.
Soilborne disease *Phytophthora* spp. *Pythium* spp.	12 to 16	For control of *Phytophthora* spp. and *Pythium* spp., apply **Emerald** in tank mix with another fungicide effective against these diseases using application instructions above for *Fusarium*, *Rhizoctonia* and *Sclerotinia*.

Table 6. Emerald® fungicide Treatment Rates for Dip Treatments of Ornamental Bulbs

Disease (Pathogen)	**Product Use Rate per Application (ozs product/100 gallons)**	**Comments**
Basal and bulb rot *Fusarium* spp.	12 to 16	**Post harvest dipping of bulbs for the reduction of basal rot and blue mold on freshly dug plant material:** Clean and treat bulbs within 24 to 48 hours of digging. Follow instructions below for preparing dip mixture, dipping and drying of bulbs. **Preplant dipping for basal rot on bulbs prior to planting into fields or bulbs used in containers:** Start with clean, dry bulbs. Follow instructions below for preparing dip mixture, dipping and drying of bulbs. **Instructions for preparing Emerald mixture, dipping and drying of bulbs:** Prepare mixture in water with the amount of **Emerald** stated in **Table 6. Emerald® fungicide Treatment Rates for Dip Treatments of Ornamental Bulbs**. Keep dip mixture well agitated prior to and during the submersion of bulbs so that **Emerald** is uniformly dispersed. Submerge the bulbs completely in the dipping mixture for 15 to 30 minutes. Follow normal drying procedures, such as allowing a minimum of 2 days for bulb drying when using a forced-air rack and/or greater drying time when using ambient air conditions while holding bulbs in racks or bins. **Discard mixture:** 1. When it becomes dirty or 2. After using 5 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.
Blue mold *Penicillium* spp.	12 to 16	

Table 7. Rate Conversions for Volume-based and Surface Area-based Applications of Emerald

Spray Volume per acre (gallons)	**Emerald Rate (ozs/100 gallons)**	**Emerald Rate**		**Boscalid Rate (lbs ai/100 gallons)**	**Acres Treated per pound of Emerald**
		(ozs/acre)	**(lbs/acre)**		
100	4	4	0.25	0.175	4.0
	8	8	0.50	0.35	2.0
	16	16	1.00	0.70	1.0

Plant Tolerance

Plants in Table 8. Emerald® fungicide Tolerant Plant Species have been found to be tolerant to Emerald when it is applied according to the use directions stated in this label.

The phytotoxic potential of **Emerald** 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 **Emerald**, possible tank mix combinations of **Emerald**, pesticide treatments preceding or following those of **Emerald**, and combinations of **Emerald** 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 **Emerald**, 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 **Emerald**. If they are needed, use only surfactants approved for ornamental plants in combination with **Emerald**. 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 organosilicone-based adjuvants with **Emerald** because crop phytotoxicity may result on certain ornamental species.

Table 8. Emerald® fungicide Tolerant Plant Species

Plant (Common Name)	Plant (Scientific Name)
Almond - nonbearing	*Prunus dulcis*
Apple - nonbearing	*Malus* spp.
Apricot - nonbearing	*Prunus armeniaca*
Arborvitae, American	*Thuja occidentalis, T. plicata, T. occidentalis*
Ash, red	*Fraxinus pennsylvanica*
Asparagus - ornamental	*Asparagus officinalis*
Astilbe	*Astilbe buch-ham* spp.
Aucuba, Japanese	*Aucuba japonica*
Avens	*Geum chiloense*
Azalea	*Rhododendron* spp.
Bachelor button	*Centaurea montana*
Balloon flower	*Platycodon grandiflora*
Bamboo, heavenly	*Nandina domestica thunb*
Bee balm	*Monarda didyma*
Bellflower, clustered	*Campanula glomerata*
Blanket flower	*Gaillardia grandiflora*
Boxwood (common, Japanese)	*Buxus* spp. *(B. sempervirens, B. microphylla)*
Brachycome	*Branchycome* spp.
Bugleweed	*Ajuga* spp.
Burning bush	*Euonymus aletus*
Butterfly bush	*Buddleia* spp.
Caladium	*Caladium* spp.
Camellia, Japanese	*Camellia japonica*
Cape jasmine	*Gardenia jasminoides*
Cedar, Japanese	*Cryptomeria japonica*
Chamaecyparis	*Chamaecyparis pisifera*
Chrysanthemum	*Chrysanthemum hortorum*
Columbine	*Aquilegia* spp.
Coral bells	*Heuchera brizoides*
Crabapple	*Malus* spp.
Crambe	*Crambe abyssinica hochst*
Dahlia	*Dahlia pinnata*
Daylily	*Hemerocallis l.* spp.
Dogwood	*Cornus sanguinea*
Fern, ornamental	*Nephrolepis* spp.
Fir, Douglas	*Pseudotsuga menziesii*
Foxglove	*Digitalis parviflora*
Gazania	*Gazania hybridens*
Geranium	*Pelargonium* spp.
Gooseberry, Chinese	*Actinidia chinesis planch*
Grape - nonbearing	*Vitis* spp.

(continued)

Table 8. Emerald® fungicide Tolerant Plant Species *(continued)*

Plant (Common Name)	Plant (Scientific Name)
Gypsophila	*Gypsophila paniculata*
Hawthorn, Indian	*Raphiolepis indica*
Hemlock, Canadian	*Tsuga canadensis*
Hibiscus	*Hibiscus rosa sinensis*
Holly (Japanese, Chinese, yaupon)	*Ilex* spp. *(I. crenata, I. vomitoria)*
Hosta	*Hosta* spp.
Hyacinth	*Hyacinthus orientalis l.*
Hydrangea	*Hydrangea* spp.
Impatiens (spp., balsam, New Guinea)	*Impatiens* spp.
Iris	*Iris* spp.
Ivy, common	*Hedera helix*
Jessamine, yellow	*Gelsemium sempervirens*
Juniper	*Juniperus* spp.
Lamb's ear	*Stachys byzantina*
Larkspur	*Delphinium* spp.
Liatris, gayfeather	*Liatris* spp.
Lily, fortnight	*Dietes vegeta*
Liriope	*Liriope muscari*
Magnolia, star	*Magnolia stellata*
Mandevilla	*Mandevilla* spp.
Maple (amur, Norway, sugar)	*Acer* spp.
Maudlin, blue	*Ageratum houstonianum*
Meadow sage	*Salvia superba*
Morningglory, dwarf	*Convolvulus tricolor l.*
Myrtle, common	*Myrtus communis*
Oak (red, bur)	*Quercus* spp. *(Q. rubra, Q. macrocarpa)*
Olive, fragrant	*Osmanthus fragrans*
Pansy, dwarf	*Viola kitaibeliana*
Peach - nonbearing	*Prunus persica*
Periwinkle, lesser	*Vinca minor*
Photinia, red-tipped	*Photinia fraseri*
Pine (black, white)	*Pinus strobus*
Plum, purple leaf	*Prunus cerasifera*
Poinsettia	*Euphorbia pulcherrima*
Primrose, showy	*Oenothera speciosa*
Privet	*Ligustrum* spp.
Purslane	*Portulaca oleracea l.*
Quince - nonbearing	*Cydonia oblonga mill*
Rose	*Rosa* spp.
Rose moss	*Portulaca grandiflora hook*
Sago palm	*Cycas revoluta thunb*
Snapdragon, great	*Antirrhinum majus l.*

(continued)

Table 8. Emerald® fungicide Tolerant Plant Species *(continued)*

Plant (Common Name)	Plant (Scientific Name)
Speedwell, spiked	*Veronica spicata*
Spindle tree, Japanese	*Euonymus japonica thunb*
Spruce	*Picea* spp.
Spurge, Japanese	*Pachysandra terminalis sieb*
Star jasmine	*Trachelospermum jasminoides*
Stonecrop	*Sedum* spp.
Sunflower	*Helianthus annuus*
Thistle, globe	*Echinops ritro*
Tickseed	*Coreopsis lanceolata*
Tulip	*Tulipa l.* spp.
Verbena	*Verbena peruviana*
Water elder	*Viburnum opulus*
Waxmyrtle, Southern	*Myrica cerifera*
Wormwood	*Artemisia absinthium*
Yarrow, fern-leaf	*Achillea filipendulina*

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or 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. To the extent consistent with applicable law, 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.

To the extent consistent with applicable law, BASF makes no other express or implied warranty of fitness or merchantability or any other express or implied warranty.

To the extent consistent with applicable law, Buyer's exclusive remedy and BASF's exclusive liability, whether in contract, tort, negligence, strict liability, or otherwise, shall be limited to repayment of the purchase price of the product.

To the extent consistent with applicable 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. 0408

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