7969-199 04/26/2006 1/30

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

APR 26 2006

Dr. Khalid H. Akkari
BASF Corporation
26 Davis Drive
Research Triangle Park, North Carolina 27709

Subject: Pristine® Fungicide
EPA Registration No. 7969-199
Your label amendment submissions and re-submissions dated: October 11, 2004 (Decision 347188); March 3, 2006 (D347188); March 7,2004 (email label); April 24, 2006 (email label); July 23, 2004 (D347950); July 25, 2004 (D345975); April 23, 2004 (D343088); April 2, 2003 (D342513); July 7, 2005 (D358952).

Dear Dr. Akkari,

The amended labeling 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. Delete the English- and Spanish-style exclamation marks from the "CAUTION/PRECAUCIÓN" Signal Word on the first page.

b. In the In the third sentence in the "Application Directions:" subsection in the Hops crop-specific use directions on page 16, change "...based on a 100 gallons of..." to "...based on 100 gallons of...".

c. In the last sentence in the "Monitoring for Asian Soybean Rust Presence" subsection in the "Management of Asian Soybean Rust" section on page 21, change "...spore movement from expected areas are expected or predicted..." to "...spore movement from expected areas is expected or predicted...".

d. In the formula near the end of the "Directed or Banded Sprays" section and near the beginning of page 5, the rightmost mathematical symbol is "X"; it must be changed to "=".

e. In the "Target Diseases" column in the crop-specific Soybeans use directions on page 20, correct the genus name for Asian Soybean Rust from "Phakoopsora" to "Phakopsora".

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

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 questions about this letter, please contact John Bazuin at (703)305-7381 or bazuin.john@epa.gov.

Sincerely yours,

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

Attachment: Label copy stamped "Accepted with Comments"

3/30

BASF

The Chemical Company

GROUP 7 | 11 FUNGICIDE

Pristine®

fungicide

For use in berries, bulb vegetables, carrots, celery, cucurbit vegetables, dry beans, grapes, hops, peanuts, pistachios, pomefruits, soybeans, spinach, stone fruits, strawberries, and tree nuts.

ACTIVE INGREDIENTS:

Pyraclostrobin, (carbamic acid, [2-[[[1-(4-chlorophenyl)-1*H*-pyrazol-3-yl]oxy]methyl]phenyl]methoxy-, methyl ester)	12.8%
Boscalid, 3-pyridinecarboxamide,2-chloro-N-(4'-chloro(1,1'-biphenyl)-2-yl)	25.2%
Inert Ingredients:	62.0%
Total:	100.0%

0.128 oz (0.008 lb) of pyraclostrobin in 1 oz of **Pristine**
0.252 oz (0.0158 lb) of boscalid in 1 oz of **Pristine**

EPA Reg No. 7969-199 **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 the label, find someone to explain it to you in detail.)

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

No aerial application in New York except as permitted under FIFRA Section 24(c), Special Local Needs Registration.

Net Contents: _____

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

ACCEPTED
with COMMENTS
In EPA Letter Dated
APR 26 2006
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 7969-199

4/30

FIRST AID

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 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 in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment 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.

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

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.

Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

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.

Engineering Controls Statement

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4 - 6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- 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

Surface Water Advisory

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after application. 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 forecast 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, areas where surface water is present, or intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment wash waters or rinsate.

5/30

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. 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 to workers, and restricted-entry interval. 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 crop uses except when performing cane tying, cane turning or cane girdling on grapes. The REI is **5 days** for treated grapes when conducting cane tying, cane turning or cane tying.

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

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 using 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 representatives 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 material is released or spilled:

Dike and contain the 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 the spill out of all sewers and open bodies of water.

I. General Information

This package contains **Pristine® fungicide**, a water dispersible granule (WG). The active ingredients in **Pristine** belong to two classes of fungicides, the strobilurins and anilides. **Pristine** is effective against pathogens resistant to other fungicides. **Pristine** has a protective effect because it inhibits spore germination. It also has a curative effect because it inhibits mycelial growth and sporulation of the fungus on the leaf surface. However, optimum disease control is achieved when **Pristine** 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 and rainfastness, **Pristine** has good residual activity against target fungi.

Pristine is not for use in greenhouse or transplant production.

Sensitive Crop Precaution

Pristine may cause injury to foliage of Concord or related grape varieties such as Worden, Fredonia and Niagara. **DO NOT** use **Pristine** on these varieties and use special care

when applying **Pristine® fungicide** to prevent contact with these sensitive varieties. Consult a BASF representative for more information concerning these sensitive grape varieties. Thoroughly rinse spray equipment, including the inside of the tank, hoses and nozzles after and before using the same equipment on grape varieties sensitive to **Pristine**.

Modes of Action

Pyraclostrobin and boscalid, the active ingredients of **Pristine**, belong to the groups of respiration inhibitors classified by the U.S. EPA and Canada PMRA as Target Site of Action **Group 11** and **Group 7** fungicides, respectively.

Resistance Management

Pristine contains pyraclostrobin and boscalid, a premix of a **Group 11** and a **Group 7** fungicide, and is effective against pathogens resistant to fungicides with modes of action different from those of target site **Groups 7** and **11**, such as dicarboximides, sterol inhibitors, benzimidazoles, or phenylamides. **Pristine** is also effective against certain pathogens with resistance to **Group 11** fungicides, such as pyraclostrobin, azoxystrobin, trifloxystrobin, or kresoxim-methyl. However, fungal isolates resistant to **Group 7** or **11** fungicides may eventually dominate the fungal population if ***Group 7*** *or* ***Group 11*** *fungicides are used predominantly* and repeatedly in the same field in successive years as the primary method of control for the targeted pathogen species, especially if resistance to either **Group 7** or **11** fungicides is already present in the pathogen population. This may result in reduction of disease control by **Pristine** or other **Group 7** or **11** fungicides. To maintain the performance of **Pristine** in the field, **DO NOT** exceed the total number of sequential applications of **Pristine** and the total number of applications of **Pristine** per season stated in **Sections V.** and **VI.** Adhere to the label instructions regarding the consecutive use of **Pristine** or other target site of action **Group 7** and **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: Pristine** provides more effective resistance management of most of its target pathogens, because it is a premix of two fungicides with different modes of action. If **Pristine** is used in 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: Pristine** should be integrated into an overall disease and pest management program. Cultural practices known to reduce disease development should be followed. Consult your local extension specialist, certified crop advisor and/or BASF representative for additional IPM strategies established for your area. **Pristine** may be used in Agricultural Extension 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.

4. **Reporting:** If a **Group 7** or **11** target site fungicide appears to be less 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.

Cleaning Spray Equipment

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

II. Application Instructions

Apply recommended rates of **Pristine** as instructed by **Table 2. Crop-Specific Recommendations**. Ground application is recommended for thorough coverage. Aerial application can be made for those crops or in conditions where applications are not possible using ground equipment. **Pristine** can be applied through sprinkler irrigation equipment. Equipment should be checked frequently for calibration. Under low-level disease conditions, the minimum application rates can be used while maximum application rates and shortened spray schedules are recommended for severe or threatening disease conditions.

Ground Application

Apply **Pristine** in sufficient water to ensure thorough coverage of foliage, bloom, and fruit. Thorough coverage is required for optimum disease control.

Directed or Banded Sprays

The rate recommendations on the **Pristine** label reflect the amount of product that should be applied uniformly over an acre of ground on a broadcast basis.

In some crops, **Pristine** may be used as a directed or banded spray over the rows or plant beds with the alleys or row middles left unsprayed. For such uses, the labeled **Pristine** recommendation should be reduced in proportion to the area actually sprayed. This adjustment is necessary to avoid applying the product at use rates higher than permitted according to label recommendations.

The following formula may be used to determine the broadcast equivalent rate for doing directed or banded sprays:

$$\text{sprayed bed width} + \text{unsprayed row middles width} = \text{total row width}$$

$$\frac{\text{sprayed bed width in inches}}{\text{total row width in inches}} \times \frac{\text{Broadcast Rate}}{\text{Treated Acre}} = \frac{\text{Band Rate}}{\text{Field Acre}}$$

Example: A directed spray application will be made to 45" plant beds that are separated by 15" of unsprayed row middles.

7/30

45" sprayed bed width + 15" unsprayed row middles = 60" total row width

The calculation to determine the appropriate equivalent rate of product to use for this situation based on a label broadcast rate recommendation of 12 oz/acre follows:

$$\frac{\text{45" sprayed bed width}}{\text{60" total row width}} \times \frac{\text{12 oz } \textbf{Pristine® fungicide}}{\text{Treated Acre}} \times \frac{\text{9 oz } \textbf{Pristine}}{\text{Field Acre}}$$

Aerial Application

BASF recommends ground applications for thorough coverage. For those crops or in conditions where applications cannot be done by ground equipment, aerial application can be made. Avoid applications under conditions when uniform coverage cannot be obtained or when spray drift may occur. Use no less than 5 gallons of spray solution per acre. For aerial applications to tree and vine crops, use no less than 10 gallons of spray solution per acre. For all crops, thorough coverage is required for optimum disease control.

Directions for Use Through Sprinkler Irrigation Systems

Sprayer Preparation: Chemical tank and injector system should be thoroughly cleaned. Flush system with clean water.

Application Instructions: *Apply* ***Pristine*** *at rates and* timings as described in this label.

Use Precautions for Sprinkler Irrigation Applications:

- This product can be applied 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.
- Add this product to the pesticide supply tank containing sufficient water to maintain a continuous flow by the injection equipment. In continuous moving systems, inject this product-water mixture continuously, applying the labeled rate per acre for that crop. **DO NOT** exceed ½ inch (13,577 gallons) per acre. In stationary or non-continuous moving systems, inject the product-water mixture in the last 15-30 minutes of each set allowing sufficient time for all of the required pesticide to be applied by all the sprinkler heads and applying the labeled rate per acre for that crop. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of 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 green house 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

8/30

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.

III. Additives and General Tank Mixing Information

Pristine® fungicide can be tank mixed with most recommended fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants, and additives as specified in **Section VI. Crop-Specific Recommendations.**

Under some conditions, the use of additives or adjuvants may improve the performance of **Pristine**. However, all varieties and cultivars have not been tested with possible tank mix combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, or crop injury may result from mixing **Pristine** 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 crop 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.

IV. Compatibility Test and Mixing Order

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

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 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, 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

1) **Water.** Begin by agitating a thoroughly clean sprayer tank three-quarters 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 **Pristine**, 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 AMS or 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. See **Table I. Crop-Specific Restrictions and Limitations** for more details.

9/30

V. Restrictions and Limitations - All Crops

- **Maximum seasonal use rate: DO NOT** apply more than the maximum rate per acre per season as listed in **Table 1. Crop-Specific Restrictions and Limitations** and **Table 2. Crop-Specific Recommendations**.
- **Maximum rate per application: DO NOT** apply more than the maximum rate per acre per application as listed in **Table 1. Crop-Specific Restrictions and Limitations** and **Table 2. Crop-Specific Recommendations**.
- **DO NOT** make more than the total number of applications of **Pristine® fungicide** per season as listed in **Table 1. Crop-Specific Restrictions and Limitations** and **Table 2. Crop-Specific Recommendations**.
- **DO NOT** apply more than the maximum season use rate of ai/acre or oz of product/acre for each specific crop from any combination of products (e.g. **Pristine**, **Endura®**, **Cabrio® EG**, **Headline® fungicides**).
- **Pre-harvest Interval (PHI)**: See **Table 1. Crop-Specific Restrictions and Limitations** and **Table 2. Crop-Specific Recommendations**.
- ***Pristine*** *is not for use in greenhouse or transplant production.*

Crop Rotation Restriction

Crops listed on the **Pristine**, ***Cabrio EG***, ***Endura*** *and* ***Headline*** *labels may be planted immediately following the last* application.

All other crops can be planted 14 days after the last application.

DO NOT use on **cowpeas, field peas, grain lupin, sugar beets, garden beets, turnip** or **radishes**.

Table 1. Crop-Specific Restrictions and Limitations

Crop[1]	*Minimum Time from* Application to Harvest (PHI) (days)	*Maximum Rate per* Acre per Application (oz product)	*Maximum Number* of Applications[3] per Season	*Maximum Rate per* Acre per Season (oz product)
Berries Group[1]: Blueberry, Caneberry, Raspberry	0	23	4	92
Bulb Vegetables Group[1]: Onion, Garlic, Leeks	7	18.5	6	111
Carrots	0	10.5	6	63
Celery	0	25	2	50
Cucurbit Vegetables Group[1]: Cantaloupe, Cucumber, Melon, Squash, Pumpkin, Watermelon	0	18.5	4	74
Dry Beans[1]	21	25	2	50
Grapes[2]	14	23	3	69
Hops	14	28	3	84
Peanut	14	28	3	84
Pistachio	14	14.5	4	58
Pome Fruits[1]	0	18.5	4	74

10/30

Table 1. Crop-Specific Restrictions and Limitations *(Continued)*

Crop[1]	Minimum Time from Application to Harvest (PHI) (days)	Maximum Rate per Acre per Application (oz product)	Maximum Number of Applications[3] per Season	Maximum Rate per Acre per Season (oz product)
Soybeans	21	8-16	2	32
Spinach	14	25	2	50
Stone Fruits Group[1]: Apricot, Cherry, (sweet and sour) Nectarine, Peach, Plum, Prune	0	14.5	5	72.5
Strawberries	0	23	5	115
Tree Nuts Group[1] except Almond	14	14.5	4	58
Almond	25	14.5	4	58

[1] For a complete list of crops within a crop group, see **Section VI. Crop-Specific Recommendations**.
[2] **DO NOT** use on Concord or NY73.0136.17 due to foliar injury. Possible foliar injury could occur to Worden, Fredonia, Niagara, Steuben, Rougeon or related varieties. Not all varieties have been thoroughly tested.
[3] *At maximum use rate per application*
Aerial application is permitted for all labeled crop uses except for hops. **No aerial application in New York except as permitted under FIFRA Section 24(c), Special Local Needs Registration.**

VI. Crop-Specific Recommendations

Table 2. Crop-Specific Recommendations

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Berry Group Blackberry (all varieties) Blueberry Currant Elderberry Gooseberry Huckleberry Loganberry Raspberry (black and red)	Alternaria leaf spot and fruit rot (*Alternaria* spp.) Anthracnose (*Colletotrichum* spp., *Elsinoe* spp.) Botrytis gray mold (*Botrytis cinerea*) Leaf spot and blotch (*Mycosphaerella* spp., *Septoria* spp.) Monilinia blight and mummy berry (*Monilinia* spp.) *Phomopsis leaf spot*, twig blight, and fruit rot (*Phomopsis* spp.) Powdery mildew (*Sphaerotheca* spp., *Microsphaera* spp., *Oidium* spp.) Spur blight (*Didymella* spp., *Phoma* spp.) **Suppression Only** Rust (*Puccianiastrum* spp., *Arthuriomyces* spp., *Phragmidium* spp., *Kuehneola* spp.)	18.5 to 23 oz per acre	4	92 oz per acre	0 days

Application Directions: Begin applications of **Pristine® fungicide** prior to onset of disease development and continue on a 7- to 14-day interval.

Use the shorter interval and/or the higher rate when disease pressure is high.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than four (4) applications of **Pristine** or other **Group 7** or **11** fungicides per season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

12/30

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Bulb Vegetables Group Onions (all varieties) Garlic Leek Shallot	Botrytis leaf blight (*Botrytis* spp.)	14.5 to 18.5 oz per acre	6	111 oz per acre	7 days
	Purple blotch and leaf blight (*Alternaria porri*) Stemphylium leaf blight and stalk rot (*Stemphylium vesicarium*)	10.5 to 18.5 oz per acre			
	Suppression only Downy Mildew (*Peronospora destructor*)	18.5 oz per acre			

Application Directions: For control of purple blotch and leaf blight, begin applications of **Pristine® fungicide** prior to onset of disease development and continue on a 14-day interval. If application intervals shorter than 14 days are needed, rotate to another fungicide with a different mode of action.

Use the higher rate when disease pressure is high.

Applications made to control purple blotch, leaf blight and stalk rot will also suppress downy mildew. If downy mildew occurs during a **Pristine** application for these diseases, immediately follow the **Pristine** application with a downy mildew fungicide with a different mode of action.

For downy mildew, rotate each application of **Pristine** with an application of a labeled fungicide with a different mode of action.

No restriction on livestock grazing or feeding.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than six (6) applications of **Pristine** or other **Group 7** or **11** fungicides per season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Carrots	Alternaria Leaf spot (*Alternaria* spp.) Cercospora leaf spot (*Cercospora* spp.) Powdery mildew (*Erysiphe* spp.)	8 to 10.5 oz per acre	6	63 oz per acre	0 days
	Suppression only Southern Root Rot (*Sclerotium rolfsii*)				

Application Directions: Begin applications of **Pristine® fungicide** prior to onset of disease development and continue on a 7- to 14-day interval.

Use the higher rate and the shorter interval when disease pressure is high.

No restriction on livestock grazing or feeding for carrot culls.

Resistance Management: To limit the potential for development of resistance, ***DO NOT*** *make more than six (6) applications of* **Pristine** or other **Group 7** or **11** fungicides per crop growing season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Celery **Celery (Chinese)**	Alternaria leaf spot (*Alternaria* spp.) Anthracnose (*Colletotrichum* spp.) Ascochyta leaf spot (*Ascochyta* spp.) Cercospora leaf spot (*Cercospora* spp.) Downy mildew (*Peronospora* spp.; *Bremia* spp.) Phoma (*Phoma* spp.) *Rust* (*Puccinia* spp.) Powdery Mildew (*Erysiphe* spp.) Septoria leaf spot (*Septoria* spp.) White rust (*Albugo* spp.)	10 to 15 oz per acre	2	50 oz per acre	0 days
	Botrytis rot (*Botrytis* spp.) Sclerotinia rot and blight (*Sclerotinia* spp.)	25 oz per acre			

Application Directions: Begin applications of **Pristine** prior to the onset of disease development and continue on a 7-day interval.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than two (2) applications of **Pristine** per season.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications *per Season*	Maximum Product Rate per *Season*	Minimum Time from Application to *Harvest (PHI)*
Cucurbit Vegetables Group Chayote Chinese waxgourd Citron melon Cucumber Gherkin Pumpkin Watermelon **Edible gourd** Hyotan Cucuzza Chinese okra ***Momordica* spp.** Balsam apple Balsam pear Bitter melon Chinese cucumber **Muskmelon** Cantaloupe Casaba Crenshaw melon Golden pershaw melon Honeydew melon Honey balls Mango melon Persian melon Pineapple melon Santa Claus melon Snake melon **Summer squash** Crookneck squash Scallop squash Straightneck squash Vegetable marrow Zucchini **Winter squash** Butternut squash Calabaza Hubbard squash Acorn squash Spaghetti squash	Downy mildew *(Pseudoperonospora cubensis)* Alternaria blight (*Alternaria cucumerina*) Cercospora leaf spot (*Cercospora citrulina*) Gummy stem blight (*Didymella bryoniae*) Powdery mildew (*Sphaerotheca fuliginea, Erysiphe cichoracearum*)	12.5 to 18.5 oz per acre	4	74 oz per acre	0 days
	Anthracnose (*Colletotrichum orbiculare*)	18.5 oz per acre			

See Cucurbit Vegetables Group Information on next page. *(Continued)*

Table 2. Crop-Specific Recommendations *(Continued)*

Cucurbit Vegetables Group Information

Application Directions: Begin applications of **Pristine® fungicide** prior to onset of disease development and continue on a 7- to 14-day interval. Use the higher rate and the shorter interval when disease pressure is high.

Use the highest labeled rate for anthracnose.

DO NOT use **Pristine** tank mixes with additives or adjuvants on muskmelon crops such as cantaloupe and honeydew or crop injury may result.

For cucurbit crops other than melons, the use of additives or adjuvants may improve the performance of **Pristine**. However, BASF evaluations also indicate that under some conditions (particularly high temperatures and/or high additive rates), application of **Pristine** in combination with certain rates of silicone-based or oil-containing (petroleum or crop) additives or adjuvants can cause injury to some cucurbit crops.

BASF has not tested all varieties and cultivars with all possible tank mix combinations and rates of additives or adjuvants. Local environmental conditions also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, or crop injury may result from mixing **Pristine** with other products.

The user assumes all risks associated with adding products to the **Pristine** spray solution. BASF cannot be held responsible for crop injury, reduced disease control or incompatibility due to additives, adjuvants or other products used in combination with **Pristine**. Refer also to the **Conditions of Sale and Warranty** section of this label.

To minimize the likelihood of crop injury, BASF recommends testing **Pristine** in combination with other products for crop safety on a small portion of the crop. However, environmental variability precludes direct and consistent projection of small area test results to future use.

Consult a BASF representative for more information concerning additives or adjuvants.

DO NOT tank mix **Pristine** with Malathion, Kelthane® agricultural miticide, Thiodan® insecticide, Phaser® insecticide, Lannate® insecticide, Lorsban® insecticide, M-Pede® insecticide, or Botran® fungicide as crop injury may result.

Resistance Management: *To limit the potential of development of resistance,* ***DO NOT*** *make more than four (4) applications of* **Pristine** per season.

DO NOT make more than one (1) application of **Pristine** before alternating to a labeled non-strobilurin (non-QoI) fungicide with a different mode of action for at least one application.

16/30

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Dry Beans (except soybeans) *Lupinus* spp. Lupin Sweet Lupin *Phaseolus* spp. Field bean Kidney bean Lima bean (dry) Navy bean Pink bean Pinto bean Tepary bean *Vigna* spp. Adjuki bean Blackeyed pea Catjang Crowder pea Moth bean Mung bean Rice bean Southern pea Urd bean	Alternaria leaf and pod spot (*Alternaria* spp.) Ascochyta blight (*Phoma exigua, Ascochyta* spp.) *Cercospora leaf spot* (*Cercospora* spp.) Downy Mildew (*Phytophthora nicotianae*) Mycosphaerella blight (*Mycosphaerella* spp.) Powdery mildew (*Erysiphe polygoni*) Rust (*Uromyces appendiculatus*) Septoria leaf spot (*Septoria* spp.)	10 to 15 oz per acre	2	50 oz per acre	21 days
	Anthracnose (*Colletotrichum* spp.) Botrytis gray mold (*Botrytis cinerea*) White mold (*Sclerotinia sclerotiorum*)	15 to 25 oz per acre			

Application Directions: For optimal disease control, begin applications of **Pristine® fungicide** prior to onset of disease development or at the beginning of flowering and repeat on a 5- to 14-day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high.

Resistance Management: DO NOT make more than two (2) applications of **Pristine** or other strobilurin (QoI) or carboxamide fungicides per season.

Restrictions: DO NOT use on soybean, cowpeas, field pea and grain lupin. DO NOT feed treated pea commodities to livestock.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Grapes (except Concord, Worden, Fredonia, Niagara and related varieties)	Angular leaf spot (*Mycosphaerella angulata*) Anthracnose (*Elsinoe ampelina*) Black rot (*Guignardia bidwellii*) Downy mildew (*Plasmopara viticola*) Leaf blight (*Pseudocercospora vitis*) Phomopsis cane and leaf spot (*Phomopsis viticola*) Powdery mildew (*Uncinula necator*) Ripe rot (*Colletotrichum gloeosporioides*) Summer bunch rot (Sour rot) (*Cladosporium* spp. and *Aspergillus* spp.) ***Suppression Only*** Botrytis gray mold (*Botrytis cinerea*)	8 to 12.5 oz per acre	5	69 oz per acre	14 days
	Botrytis gray mold (*Botrytis cinerea*)	18.5 to 23 oz per acre	3		

Application Directions: For powdery mildew control, begin applications of **Pristine® fungicide** as of bud break prior to onset of disease, using 8 oz per acre on a 10- to 14-day interval, or 8 - 12.5 oz per acre on a 14- to 21-day interval.

For black rot and downy mildew control, begin applications of **Pristine** as of pre-bloom prior to onset of disease and continue applications on a 10- to 14-day interval.

For all other diseases listed except for Botrytis gray mold, begin applications of **Pristine** prior to onset of disease and continue applications on a 10- to 14-day interval. **Pristine** applied at rates of 8 - 12.5 oz per acre for control of the above-mentioned diseases will also suppress Botrytis gray mold.

For control of Botrytis gray mold, apply 18.5 - 23 oz per acre of **Pristine** prior to onset of disease development when conditions favor disease development during early bloom, bunch pre-closure and veraison up to 14 days before harvest.

Use the higher rate and the shorter interval when disease pressure is high.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours except when performing cane tying, cane turning or cane girdling. The REI is 5 days for treated grapes when conducting cane tying, cane turning or cane girdling.

DO NOT use on Concord or NY73.0136.17 due to foliar injury. Possible foliar injury could occur to Worden, Fredonia, Niagara, Steuben, Rougeon or related varieties. Not all varieties have been thoroughly tested.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than six (6) applications of **Pristine** or other **Group 7** or **11** fungicides per season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Hops	Powdery mildew (*Erysiphe cichoracearum, Sphaerotheca* spp) Downy mildew (*Pseudoperonospora humuli*)	14 oz per 100 gallons of dilute spray (**DO NOT** use more than 28 oz per acre)	3	84 oz per acre	14 days

Application Directions: Begin applications of **Pristine® fungicide** prior to disease development and continue on a 10 - to 21- day interval. Use the shorter interval when disease pressure is high. Application rates are based on a 100 gallons of dilute spray applied to runoff. Adjust water volume to maintain thorough coverage. Use 25-50 gallons of dilute spray per acre prior to trellising and 100-200 gallons of dilute spray per acre thereafter. **DO NOT** use more than 200 gallons per acre of this mixture. If additional spray volume is needed for thorough coverage, use 28 oz of **Pristine** per acre in the required spray volume.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Pristine** per season. **DO NOT** make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

Restrictions: DO NOT use more than 200 gallons per acre of this mixture. If additional spray volume is needed for thorough coverage, use 28 oz of Pristine per acre in the required spray volume.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Peanut	Early leaf spot (*Cercospora arachidicola*) Late leaf spot (*Cercosporidium personatum*) Pepperspot (*Leptosphaerulina crassiasca*) Rust (*Puccinia arachidis*) Web blotch (*Phoma arachidicola*)	12.5 to 18.5 oz per acre	3	84 oz per acre	14 days
	Rhizoctonia limb rot, peg rot, and pod rot (*Rhizoctonia solani*) Sclerotium rot - Southern stem rot, Southern blight, and white mold (*Sclerotium rolfsii*) Sclerotinia blight (*Sclerotinia minor*)	18.5 to 28 oz per acre			

Application Directions: For control of pepperspot, rust, web blotch, early and late leaf spot, begin applications of **Pristine® fungicide** prior to onset of disease development and continue on a 14-day interval.

For control of Rhizoctonia and Sclerotium rot, begin applications of **Pristine** prior to onset of disease development and continue on a 14-day interval.

For control of Sclerotinia blight, begin applications of **Pristine** prior to onset of disease development or 45 to 60 days after planting. Make a second application 14 - 21 days later.

Use the higher rate and/or shorter spray interval when disease pressure is high or in fields with a history of disease.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Pristine** per season.

***DO NOT** make more than two (2) sequential applications of **Pristine** before alternating to a labeled non-strobilurin (non-QoI) or non-carboxamide* fungicide with a different mode of action for at least one (1) application.

Restrictions: Use of Pristine with silicone-based adjuvants may cause crop injury.

***DO NOT* feed treated peanut hay to livestock.**
DO NOT graze livestock or harvest for forage use.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Pistachio	Alternaria late blight (*Alternaria* spp.) Botrytis blossom and shoot blight (*Botrytis cinerea*) Panicle and shoot blight (*Botryosphaeria dothidea*)	10.5 to 14.5 oz per acre	4	58 oz per acre	14 days

Application Directions: Apply **Pristine® fungicide** prior to onset of disease development and continue on a 10- to 30-day interval.

Use the higher rate and shorter intervals when disease pressure is high.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than four (4) applications of **Pristine** or other **Group 7** or **11** fungicides per season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

For aerial application to pistachio trees, use no less than 10 gallons of spray solution per acre.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application[1]	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Pome fruits Group Apple Crabapple Loquat Mayhaw Oriental Pear Pear Quince	Alternaria blotch (*Alternaria mali*) Apple scab (*Venturia inaequalis*) Bitter rot (*Colletotrichum* spp.) Black rot/Frogeye leaf spot (*Botryosphaeria obtusa*) Brooks spot (*Mycosphaerella pomi*) Flyspeck (*Zygophiala jamaicensis*) Pear scab (*Venturia pirina*) Powdery mildew (*Podosphaera leucotricha*) Sooty blotch (*disease complex*) White rot (*Botryosphaeria dothidea*) **Suppression only** Cedar Apple rust (*Gymnosporangium juniperi-virginianae*) Quince rust (*Gymnosporangium clavipes*)	14.5 to 18.5 oz per acre	4	74 oz per acre	0 days

Application Directions for scab, powdery mildew, frogeye leaf spot and rust: Begin applications of **Pristine® fungicide** prior to disease development and continue on a 7- to 10-day interval. Use the higher rate and shorter interval when disease pressure is high. Application rates are based on a tree size requiring a standard dilute spray of 300 gallons per acre. **DO NOT** apply less than 14.5 oz/A of Pristine when spraying based on tree row volume.

Application Directions for sooty blotch, flyspeck, white rot, black rot, bitter rot and Alternaria blotch: Begin applications of **Pristine** prior to disease development and continue on a 7- to 14-day interval. Use the higher rate and shorter interval when disease pressure is high. Application rates are based on a tree size requiring a standard dilute spray of 300 gallons per acre **DO NOT** apply less than 14.5 oz/A of Pristine when spraying based on tree row volume.

No restriction on livestock grazing or feeding for pome fruits feed items.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than four (4) applications of **Pristine** per season. **DO NOT** make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

[1]Application rates are based on a tree size requiring a standard dilute spray of 300 gallons per acre. **DO NOT** apply less than 14.5 oz of **Pristine** when spraying based on tree row volume

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Soybeans	Alternaria leaf spot (*Alternaria* spp.) Anthracnose (*Colletotrichum truncatum*) Brown Spot (*Septoria glycines*) Cercospora blight (*Cercospora* kikuchii) Frogeye leaf spot (*Cercospora sojina*) Pod & Stem blight (*Diaporthe phaseolorum*) Rhizoctonia aerial blight (*Rhizoctonia solani*)	8 to 16 oz per acre	2	32 oz per acre	21 days
	Asian soybean rust* (*Phakoopsora pachyrhizi*)	12.5 to 16 oz per acre			
	Southern blight (*Sclerotium rolfsii*) White mold (*Sclerotinia sclerotiorum*)	16 oz per acre			
	Application Directions: For optimal disease control, apply **Pristine® fungicide** at early flowering (R1-R3 growth stage) or prior to disease development, whichever is earlier. Make a second application 7 to 21 days later if monitoring shows disease development or if conditions are conducive for disease infection. Use the higher labeled rate and shorter interval when disease pressure is high. ***Pristine*** *may be applied with adjuvants.* *See the section entitled **Management of Asian Soybean Rust** for specific instructions on use of **Pristine** to control Asian Soybean Rust. Soybean forage may be fed no sooner than 14 days after last application. Soybean hay may be fed no sooner than 21 days after last application.				

Management of Asian Soybean Rust

If Asian soybean rust spores are present in the area, soybeans may be infected, even if symptoms are not present. Once Asian soybean rust is established (infection level* greater than 3-5%) on the soybean plant, control is difficult to achieve with a curative approach. Optimum disease control is achieved by utilizing the combination of a preventative fungicide like **Pristine® fungicide** plus an EPA-approved fungicide (non-QoI mode of action) with known curative activity** against Asian soybean rust.

A comprehensive monitoring and scouting program must be continued after initial fungicide applications. Fungicide treatments that include **Pristine** will protect soybeans against Asian soybean rust for up to 21 days, but subsequent disease infection of treated leaves can occur earlier if conditions are favorable for disease development. New leaves emerging after treatment will not be protected from new infection pressure.

Monitoring for Asian Soybean Rust Presence
Information on the geographic distribution of Asian soybean rust can be gathered from multiple sources including local retailers, University Extension, USDA, the internet and BASF. These sources must be evaluated frequently during the growing season to determine the risk and local presence of rust spores in your geography. Rust spores can move hundreds of miles in only a few days based on wind direction and speed. If soybean rust is present in the area or if conditions exist where spore movement from infected areas are expected or predicted, soybean fields should be treated utilizing the **Pristine** program described in **Table A.**

Field Scouting
Scout soybean fields for presence of Asian soybean rust frequently. Soybean rust establishment is favored by high humidity, free moisture present on soybean leaves and moderate air temperatures. Asian soybean rust, in most cases, becomes especially aggressive and visible when soybean plants reach the reproductive stage of growth (flowering). Check higher risk areas of soybean field for signs of the disease first. These include: earlier planted or maturing soybeans; high moisture areas near lakes, rivers or other water sources that keep humidity high; areas in the field that remain shaded longer resulting in higher free leaf moisture; low areas of fields where humidity (dew) can settle and persist longer. Look for any signs or symptoms of soybean rust presence. If Asian soybean rust is present in your field immediately implement Pristine program described in **Table A.**

Scouting tip: Collect leaves from suspected plants, place suspect leaves in a clear plastic bag, inflate bag with breath (adds humidity to bag) and seal, place in warm (75-90° F) environment and incubate in humid plastic bags for 24 hours. Leaves in the bags should display accelerated disease development and show spore pustule development within 24 hours. Spore development should occur approximately two times faster than under normal field conditions.

Pristine - Recommendations for the Management of Asian Soybean Rust

Preventative + Curative Treatment
Existing Infections and/or if Asian Soybean Rust *Spores Are Present or Predicted to be in the Area*
A tank mixture with an EPA approved fungicide (non-QoI mode of action) with known curative activity** against Asian soybean rust is required for control of existing Asian soybean rust infections, even if symptoms are not present. If symptoms or soybean rust lesions and/or pustules are present on soybean plants, some yield loss may have already occurred.

The **Pristine** program described in **Table A** below must be used for Asian soybean rust if one or more of the following conditions exists:

1) Asian soybean rust is present in the soybean field based on field scouting;
2) Asian soybean rust is present in the local area;
3) Predictive models based on weather/wind have predicted that spores have reached or will soon reach your area; or
4) USDA and/or University Extension report that Asian soybean rust (including spores) has been identified in your geographical area.

* Infection level = number of leaves with symptoms/signs of Asian soybean rust per 100 leaves.
** Contact your local, state or Federal agricultural authorities or local retailer for a list of fungicides approved in your state with known curative properties against Asian soybean rust.

Fungicide treatments that include **Pristine® fungicide** plus an EPA-approved fungicide (non-QoI mode of action) with known curative activity** against Asian soybean rust will protect soybeans for up to 21 days, but subsequent infection of treated leaves can occur earlier if conditions are favorable for disease development. New leaves emerging after treatment will not be protected from new infection pressure.

Since a second fungicide application may be required, a comprehensive monitoring and scouting program must be continued after the initial fungicide application. Base the need for a second application on soybean growth stage, yield potential and conditions favorable for continued Asian soybean rust infection.

*Additional fungicide applications may be needed if Asian soybean rust pressure is extremely high and conditions are favorable for disease development later in the growing season. Continue the monitoring and scouting program and apply an EPA-approved fungicide (non-QoI mode of action) with known curative activity** if a third application is needed.*

Preventative Treatment
Asian Soybean Rust (including spores) Not Present or Predicted to be Present in the Field or Area
The preventative **Pristine** program described in **Table B** below should only be used if none of the conditions described in one through four of the section immediately above exist. Growers must continue to monitor and scout soybean fields as described in sections entitled **Monitoring for Asian Soybean Rust Presence** and **Field Scouting.**

A second fungicide application may be needed if Asian soybean rust (including spores) is detected or identified in the treated field or geographical area. Continue a comprehensive monitoring and scouting program after the initial application of **Pristine**. Infection of treated soybean leaves can occur and new leaves emerging after treatment will not be protected from Asian soybean rust. The need for a second application should be based on soybean growth stage, yield potential and environmental conditions. If a second application is necessary, apply **Pristine** plus an effective, EPA-approved fungicide (non-QoI mode of action) with known curative activity** against Asian soybean rust.

*Additional fungicide applications may be needed if Asian soybean rust pressure is extremely high and conditions are favorable for disease development later in the growing season. Continue the monitoring and scouting program and apply an EPA-approved fungicide (non-QoI mode of action) with known curative activity**if a third application is needed.*

Need for Season Long Monitoring, Regardless of Pristine Program Selected
The key to adequate season-long control of Asian soybean rust is careful monitoring and scouting of soybean fields all season, especially from initiation of flowering through pod fill. After the first application, maintain a thorough monitoring and scouting program. Apply follow-up fungicide treatments as needed based on crop stage of growth, yield potential, and as the residual protection of the first application begins to wane.

Thorough spray coverage of soybean plants is essential for optimum control. Utilize spray application techniques including sufficient water carrier per acre, pressure and proper nozzle selection that ensure thorough coverage. See the **Pristine** main label and your local retailer for recommendations.

* Infection level = number of leaves with symptoms/signs of Asian soybean rust per 100 leaves.
** Contact your local, state or Federal agricultural authorities or local retailer for a list of fungicides approved in your state with known curative properties against Asian soybean rust.

Table A - Pristine® fungicide application instructions when Asian soybean rust has been identified in the soybean field to be treated, is present in the local geographical area or spores have been predicted to be in the local geographical area.

Application 1:	Treatment:	**Pristine** (12.5 -16 oz/acre)[1] + adjuvant + EPA-approved fungicide (non-QoI mode of action) with known curative activity against Asian soybean rust[2]
	Timing:	This application must be made soon after first rust infection, preventatively, or at blooming start (Growth Stage R1-R3), even if symptoms have not appeared. Refer to section entitled **Pristine fungicide Recommendations for Management of Asian Soybean Rust** and repeat application as necessary, depending on disease evolution.
Application 2[3]:	Treatment:	**Pristine** (12.5 -16 oz/acre)[1] + adjuvant + EPA approved fungicide (non-QoI mode of action) with known curative activity against Asian soybean rust[2]
	Timing:	21 days after Application 1 or Earlier (no sooner than 7 days) if monitoring shows active disease

1 Higher labeled rates of **Pristine** provide longer residual control of Asian soybean rust.

2 Contact your local, state or Federal agricultural authorities or local retailer for a list of approved fungicides in your state approved for this purpose.

3 Continue to carefully monitor and scout soybean fields as described in the section entitled **Management of Asian Soybean Rust.** Base need for second application on results of monitoring and scouting for disease, crop growth stage and yield potential. Consult with your local Retailer or University extension representative for guidance, as needed. Additional fungicide applications may be needed if Asian soybean rust pressure is extremely high and conditions are favorable for disease development later in the growing season. Continue the monitoring and scouting program and apply an EPA-approved fungicide (non-QoI mode of action) with known curative activity if the third application is needed.

Table B - Pristine® fungicide application instructions when Asian soybean rust has not been identified in the soybean field to be treated, is not present in the local geographical area and spores are not present or predicted to be present in the local geographical area.

Application 1:	Treatment:	**Pristine** (12.5 -16 oz/acre)[1] + adjuvant
	Timing:	R1-R3 leaf stage (1st flower to beginning pod)
Application 2[3]:	Treatment:	**Pristine** (12.5 -16 oz/acre)[1] + adjuvant + EPA-approved fungicide (non-QoI mode of action) with known curative activity against Asian soybean rust[2]
	Timing:	21 days after Application 1 or Earlier (no sooner than 7 days) if monitoring shows active disease

[1] Higher labeled rates of **Pristine** provide longer residual control of Asian Soybean Rust.

[2] Contact your local, state or Federal agricultural authorities or local retailer for a list of approved fungicides in your state approved for this purpose.

[3] Continue to carefully monitor and scout soybean fields as described in the section entitled **Management of Asian Soybean Rust.** If Asian soybean rust, including spores, is detected in your fields or local geography, the treatment described in Application 2 may be needed. Base the need for this treatment on crop stage of growth, environmental conditions and yield potential. Consult with your local Retailer or University extension representative for guidance, as needed. Refer to section entitled **Application Information** above. Additional fungicide applications may be needed if Asian soybean rust pressure is extremely high and conditions are favorable for disease development later in the growing season. Continue the monitoring and scouting program and apply an EPA-approved fungicide (non-QoI mode of action) with known curative activity if the third application is needed.

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Spinach **Spinach (New Zealand and vine)**	Alternaria leaf spot (*Alternaria* spp.) Anthracnose (*Colletotrichum* spp.) Ascochyta leaf spot (*Ascochyta* spp.) Cercospora leaf spot (*Cercospora* spp.) Downy mildew (*Peronospora* spp.) Phoma (*Phoma* spp.) Powdery Mildew (*Erysiphe* spp., *Phyllactinia* spp., *Sphaerotheca* spp.) Rust (*Puccinia* spp.) Septoria leaf spot (*Septoria* spp.) White rust (*Albugo* spp.)	10 to 15 oz per acre	2	50 oz per acre	14 days
	Botrytis rot (*Botrytis* spp.) Lettuce Downy mildew (*Bremia* spp.) Sclerotinia rot and blight (*Sclerotinia* spp.)	25 oz per acre			

Application Directions: Begin applications of **Pristine® fungicide** prior to the onset of disease development and continue on a 7- day interval.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than two (2) applications of **Pristine** per season.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Stone Fruits Group Apricot Cherry (sweet and tart) Nectarine Peach Plum (all varieties) Plumcot Prune	Alternaria leaf spot (*Alternaria* spp.) Anthracnose (*Colletotrichum* spp.) Blossom blight (*Monilinia* spp.) Brown rot (*Monilinia* spp.) Leaf spot (*Blumeriella jaapii*) Powdery mildew (*Sphaerotheca* spp., *Podosphaera* spp.) Ripe fruit rot (*Monilinia fructicola,* *Monilinia laxa,* *Botrytis cinerea,* *Rhizopus* spp.) Rust (*Tranzschelia discolor*) Scab (*Cladosporium carpophilum*) Shothole (*Wilsonomyces carpophilus*)	10.5 to 14.5 oz per acre	5	72.5 oz per acre	0 days
Nectarine Peach	**Suppression only** Leaf curl (*Taphrina deformans*)				

Application Directions: Begin application of **Pristine® fungicide** at pink bud or prior to onset of disease development and continue on a 7- to 14-day interval.

Use the shorter interval and/or the higher rate when disease pressure is high.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than five (5) applications of **Pristine** or other **Group 7** or **11** fungicides per season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

For aerial application to stone fruit trees, use no less than 10 gallons of spray solution per acre

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Strawberries	Anthracnose (*Colletotrichum* spp.) Botrytis gray mold (*Botrytis cinerea*) Leaf spot (*Mycosphaerella fragariae*) Powdery mildew (*Sphaerotheca macularis*)	18.5 to 23 oz per acre	5	115 oz per acre	0 days

Application Directions: Begin applications of **Pristine® fungicide** no later than 10% bloom, or prior to disease development, and continue on a 7- to 14-day interval.

Use the higher rate and the shorter interval when disease pressure is high.

The restricted entry interval (REI) for treated strawberries is **12 hours**. Refer to the "**Agricultural Use Requirements**" box on page 3 for PPE required for early entry to treated areas as permitted under the Worker Protection Standard.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than five (5) applications of **Pristine** or other **Group 7** or **11** fungicides per season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

Table 2. Crop-Specific Recommendations *(Continued)*

Crop	Target Diseases	Product Use Rate per Application	Maximum Number of Applications per Season	Maximum Product Rate per Season	Minimum Time from Application to Harvest (PHI)
Tree Nuts Group Almond Beech nut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert Hickory nut Macadamia nut Pecan Walnut (black and English)	Alternaria leafspot (*Alternaria* spp.) Anthracnose (*Colletotrichum* spp.) Blossom blight (*Monilinia* spp.) Eastern filbert blight (*Anisogramma anomala*) Leaf rust (*Tranzschelia discolor*) Scab (*Cladosporium carpophilum, C. caryigenum*) Green fruit rot (*Botrytis cinerea*) Shothole (*Wilsonomyces carpophilus*)	10.5 to 14.5 oz per acre	4	58 oz per acre	14 days **(25 days for almond)**

Application Directions: In almond, begin applications of **Pristine® fungicide** at pink bud and continue on a 7- to 14-day interval up to 25 days before harvest. In filbert, begin applications at budswell to budbreak, prior to infection and onset of disease development. Continue on a 7- to 14-day interval to cover and protect new growth. In pecan, begin applications of **Pristine** prior to onset of disease development and continue on a 7- to 21-day interval for the control of scab. For all other crops listed above, apply **Pristine** prior to disease development and continue on a 7- to 28-day interval. In all cases, use the shorter interval when shoot growth is very rapid.

Use the shorter interval and/or the higher rate when disease pressure is high.

For aerial application to tree nuts, use no less than 10 gallons of spray solution per acre.

No restriction on livestock feeding for almond hulls.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than four (4) applications of **Pristine** or other **Group 7** or **11** fungicides per season.

DO NOT make more than two (2) sequential applications of **Pristine** before alternating to a labeled fungicide with a different mode of action.

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