

100-1098

02/23/2007

1/63



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

FEB 23 2007

Michele A. Schulz  
Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, North Carolina 27419

Subject: Abound® Flowable Fungicide  
EPA Registration Number 100-1098  
Your label amendment application submitted by e-mail on  
August 2, 2006; your tolerance petition 5E6916 submis-  
sion dated March 16, 2005 and resubmission dated March  
30, 2005

Dear Ms. Schulz,

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

1. Make the following changes to the label.

a. The last part of the last bulleted item (near the top of page 9) in the "RESISTANCE MANAGEMENT" section reads "...the number of QoI containing applications should be no more than ½ (50%) of the total number of fungicide applied per season." This is not grammatical and must be corrected.

b. In the "Specific Use Restrictions:" section of the "Oilseed Crops" specific use directions on page 34, add a clause or parenthetical statement indicating that this maximum rate includes seed treatment uses, where applicable.

2. Submit one copy of your final printed labeling before you

2/63

release the product for shipment.

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

Sincerely yours,

CS/

Cynthia Giles-Parker, Chief  
Fungicide Branch  
Registration Division (7505P)

Attachment: Master label stamped "ACCEPTED with COMMENTS"

3/63

Group 11 Fungicide

**Abound® Flowable  
Fungicide**

Broad spectrum fungicide for control of plant diseases

For Control of Certain Post Harvest Diseases in Banana and Citrus

**Active Ingredient:**

Azoxystrobin: methyl (*E*)-2-{2-[6-(2-cyanophenoxy)  
pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate\* .....22.9%

**Other Ingredients:** ..... 77.1%

**Total:** ..... 100.0%

Contains 2.08 lbs. of active ingredient per gallon  
\*IUPAC

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

See additional precautionary statements and directions for use inside booklet.

Reformulation is prohibited. See individual container labels for repackaging limitations.

EPA Reg. No. 100-1098  
EPA Est.

Product of the United Kingdom

SCP 1098A-M1X XXXX

Net Weight / U.S. Standard Measure

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated**

**FEB 23 2007  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.**

100-1098

4/63

<b>FIRST AID</b>	
<b>If on skin or clothing</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
<b>HOTLINE NUMBER</b> For 24 Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call <b>1-800-888-8372</b>	

---

## **PRECAUTIONARY STATEMENTS**

---

### **Hazards to Humans and Domestic Animals**

#### **CAUTION**

HARMFUL IF ABSORBED THROUGH SKIN. Avoid contact with eyes, skin, or clothing. Wear long-sleeved shirt and long pants, socks and shoes and chemical resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber. Wash thoroughly with soap and water after handling.

### **Personal Protective Equipment (PPE)**

Some materials that are chemically resistant to this product are listed below. If you want more options follow the instructions for Category A on an EPA chemical resistance category selection chart.

#### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber.
- Shoes plus socks

### **User Safety Requirements**

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

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.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### **User Safety Recommendations**

##### **Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Wash thoroughly with soap and water after handling.
- 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**

The active ingredient, azoxystrobin, in this product can be persistent for several months or longer. Azoxystrobin has degradation products which have properties similar to chemicals which are known to leach through soil to ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

This pesticide is toxic to freshwater and estuarine/marine fish and aquatic invertebrates. Do not apply directly to water except as specified on this label. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

Notify State and/or Federal authorities and Syngenta immediately if you observe any adverse environmental effects due to use of this product.

---

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

---

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. 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 manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, INC. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent allowed by State law, neither Syngenta or Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Treatment of highly mechanically damaged seed, or seed of known low vigor and poor quality, may result in reduced germination and/or reduction of seed and seedling vigor. Treat and conduct germination test on a small portion of seed before committing the total seed lot to a selected chemical treatment. Due to seed quality conditions beyond the control of Syngenta, no claims are made to guarantee germination of carry-over seed.

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## DIRECTIONS FOR USE

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

Use of Abound through airblast application equipment on grapes is prohibited in the following townships and boroughs of Erie County, Pennsylvania:

North East, Harborcreek, Lawrence Park, Erie, Presque Isle, MillCreek, Fairview, Girard and Springfield.

This prohibition is intended to help eliminate phytotoxicity problems with apples observed in this geographic location.

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

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 USES**

Commercial turf farm use (Not for use in California)

#### **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 4 hours.**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber
- Shoes plus socks

**NON-AGRICULTURAL USES**

Golf Courses (Not for use in California)

For use to control diseases on turf on golf courses, lawns and landscape areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. The area being treated must be vacated by unprotected persons.

Do not treat areas while unprotected humans or domestic animals are present in the treatment areas. Because certain states may require more restrictive reentry intervals, consult your State Department of Agriculture for further information.

**Do not allow entry into treatment area until area that was treated with Abound is dry.**

---

**STORAGE AND DISPOSAL**

---

**Prohibitions**

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**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 the label.

**Pesticide Disposal**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

**Container Disposal**

Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or alternatives allowed by State and local authorities.

**FOR BULK AND MINIBULK CONTAINERS:**

**CONTAINER DISPOSAL:** Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions.

**CONTAINER PRECAUTIONS:** Before refilling, inspect thoroughly for damage, such as cracks, punctures, bulges, dents, abrasions and damaged or worn threads on closure devices.

9/63

**REFILL ONLY WITH ABOUND.** The contents of this container cannot be completely removed by cleaning. Refilling with materials other than Abound will result in contamination and may weaken container. After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

**CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.**

---

### **GENERAL INFORMATION**

---

Abound is a broad spectrum, preventative fungicide with systemic and curative properties recommended for the control of many important plant diseases. Abound may be applied as a foliar spray in alternating spray programs or in tank mixes with other registered crop protection products. All applications should be made according to the use directions that follow.

---

### **GENERAL USE PRECAUTIONS**

---

Do not graze or feed clippings from treated turf areas to animals. Do not plant the following crops for a period of 12 months (unless an azoxystrobin product is registered for use on that crop): sorghum, barley, buckwheat, millet, oats, rye, wild rice, non-grass animal feeds (alfalfa, clover), triticale and wheat. A plantback interval (PBI) of 36 days is required for Leafy Vegetables (Except Brassica) group; Brassica, Leafy Greens subgroup; Vegetables, Root subgroup; Vegetable (Tuberous and Corm) subgroup; and Vegetables, Leaves of Root and Tuber group. Azoxystrobin is registered for use on all other rotated crops and all other crops may be planted immediately after the last treatment.

Do not use for disease control in food crops grown in greenhouses. Use for disease control in greenhouses for non-agricultural uses on grass, turf or ornamental plants (listed on this label) are permitted.

#### **ATTENTION**

Abound is extremely phytotoxic to certain apple varieties.

**AVOID SPRAY DRIFT.** Extreme care must be used to prevent injury to apple trees (and apple fruit).

**DO NOT** spray Abound where spray drift may reach apple trees.

**DO NOT** spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area.

**DO NOT** use spray equipment which has been previously used to apply Abound to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity to certain apple and crabapple varieties.

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

Abound has demonstrated some phytotoxic effects when mixed with products that are formulated as EC's. These effects are enhanced if applications are made under cool, cloudy conditions and these conditions remain for several days following application. In addition, adjuvants that contain some form of silicone have also contributed to phytotoxicity.

**INTEGRATED PEST (DISEASE) MANAGEMENT**

Abound should be integrated into an overall disease and pest management strategy whenever the use of a fungicide is required. Cultural practices known to reduce disease development should be followed. The DIRECTIONS FOR USE section in this label identifies specific IPM recommendations for each crop. Consult your local agricultural and turf authorities for additional IPM strategies established for your area. Abound may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

**RESISTANCE MANAGEMENT**

Group 11 Fungicide

Abound (azoxystrobin) is a Group 11 fungicide. The mode of action for Abound is the inhibition of the Qo (quinone outside) site within the electron transport system as well as disruption of membrane synthesis by blocking demethylation [Group 11]. Fungal pathogens can develop resistance to products with the same mode of action when used repeatedly. Because resistance development cannot be predicted, use of this product should conform to resistance management strategies established for the crop and use area. Consult your local or State agricultural authorities for resistance management strategies that are complementary to those in this label. Resistance management strategies may include alternating and/or tank-mixing with products having different modes of action or limiting the total number of applications per season. Syngenta Crop Protection encourages responsible resistance management to ensure effective long-term control of the fungal diseases on this label.

Follow the crop specific resistance management recommendations in the directions for use.

If no resistance recommendation on number of applications is specified in the directions for use, follow the recommendations in the table below.

<b>If planned total number of fungicide applications per crop is:</b>	1	2	3	4	5	6	7	8	9	10	11	12
<b>Recommended Solo QoI fungicide sprays</b>	1	1	2	2	2	2	2	3	3	3	3	4
<b>Recommended QoI fungicide sprays in mixture (tank-mix or formulated)</b>	1	2	2	2	2	3	3	4	4	5	5	6

In situations requiring multiple sprays, develop season long spray programs for Group 11 (QoI) fungicides. In crops where two sequential Group 11 fungicide applications are made, they should be alternated with two or more applications of a fungicide that is not in Group 11. If more than 12 applications are made, observe the following guidelines:

- When using a QoI fungicide as a solo product, the number of applications should be no more than 1/3 (33%) of the total number of fungicide applications per season.

- For QoI mixes in programs in which tank mixes or pre mixes of QoI with mixing partners of a different mode of action are utilized, the number of QoI containing applications should be no more than ½ (50%) of the total number of fungicide application per season.
- In programs in which applications of QoI are made with both solo products and mixtures, the number of QoI containing applications should be no more than ½ (50%) of the total number of fungicide applied per season.

If a Group 11 fungicide is applied to the seed or soil, do not make another application with a Group 11 fungicide for at least 3 weeks.

### **SPRAYING/MIXING**

Abound may be applied with all types of spray equipment commonly used for making ground and aerial applications. Do not apply Abound through any type of ultra low volume (ULV) spray system. Proper adjustments and calibration of spraying equipment to give good canopy penetration and coverage is essential for good disease control. The higher rates in the rate range and/or shorter spray intervals may be required under conditions of heavy infection pressure, highly susceptible varieties, or when environmental conditions conducive to disease exist.

For ground applications, apply Abound in sufficient water volume for adequate coverage and canopy penetration. For aerial applications to non-orchard crops, apply Abound in a minimum of two gallons of water per acre. For aerial applications in orchard crops, apply Abound in a minimum of ten gallons of water per acre. Where feasible, ground application should be used because it provides better canopy penetration and coverage.

To prepare spray solution, partially fill the spray tank with clean water and begin agitation. Add the specified amount of Abound to the tank, allowing time for good dispersion, then add an adjuvant, if recommended. If tank mixes are required, product should be added to the spray tank in the following order: WG or dry flowable formulations, wettable powders and flowable (aqueous suspensions) products. Finish filling the tank to the desired volume to obtain the proper spray concentration. Maintain agitation throughout the spraying operation. Do not allow spray mixture to stand overnight or for prolonged periods. Make up only the amount of spray required for immediate use. Sprayers should be thoroughly cleaned immediately after application.

Abound is compatible with many commonly used fungicides, liquid fertilizers, herbicides, insecticides and biological control products. If tank mixes are desired, observe all directions, precautions, and limitations on labeling of all products used. Consult compatibility charts or your local or State agricultural or turf authorities for compatibility information.

Abound is incompatible with many fertilizers when low water volumes are used for in-furrow applications. Cold temperatures and water quality exacerbate these compatibility problems. Conduct a physical compatibility test as described in the paragraph below before making a field application.

Do not combine Abound in the spray tank with pesticides, surfactants or fertilizers, unless compatibility charts or your own prior use has shown that the combination is physically compatible, effective and non-injurious under your conditions of use. If physical compatibility is

12/63

unknown, the following procedure should be followed: Pour the recommended proportions of the products into a suitable container of water, mix thoroughly and allow to stand at least twenty (20) minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered physically compatible.

---

## **SPRAY DRIFT MANAGEMENT**

---

### **ATTENTION**

Abound is extremely phytotoxic to certain apple varieties.

**AVOID SPRAY DRIFT.** Extreme care must be used to prevent injury to apple trees (and apple fruit).

**DO NOT** spray Abound where spray drift may reach apple trees.

**DO NOT** spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area.

**DO NOT** use spray equipment which has been previously used to apply Abound to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity to certain apple and crabapple varieties.

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

Do not apply when weather conditions favor drift from treated areas to non-target aquatic habitat.

---

## **APPLICATION INSTRUCTIONS**

---

Apply Abound at rates and timings as described in this label.

### **Directions for Use Through Sprinkler and Drip Chemigation Systems**

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

### **Use Precautions for Sprinkler and Drip Irrigation Applications**

**Drip Irrigation:** Abound may be applied through drip irrigation systems for soil-borne disease control. The soil should have adequate moisture capacity prior to drip application.

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

**Sprinkler Irrigation:** Apply this product through sprinkler irrigation systems including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move irrigation

systems. Do not apply this product through any other type of irrigation system except as specified on this label.

Apply with center pivot or continuous-move equipment distributing 1/2 acre-inch or less during treatment. In general, use the least amount of water required for proper distribution and coverage. If stationary systems (solid set, handlines or wheel lines other than continuous-move) are used, this product should be injected into no more than the last 20-30 minutes of the set. Do not apply when winds are greater than 10-15 mph to avoid drift or wind skips. Do not apply when wind speed favors drift beyond the area intended for treatment. Plant injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform treated water. Thorough coverage of foliage is required for good control. Good agitation should be maintained during the entire application period.

If you have questions about calibration you should contact State Extension Service specialist, equipment manufacturers or other experts.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.

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

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

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

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

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

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

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

**Specific Instructions for Public Water Systems**

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

**SOILBORNE/SEEDLING DISEASE CONTROL**

Abound can provide control of many soilborne diseases if applied early in the growing season. Specific applications for soilborne diseases include in-furrow applications and banded applications applied over the row, either shortly after plant emergence or during herbicide applications or cultivation. These applications will provide control of pre- or postemergence damping off and diseases that infect plants at the soil-plant interface.

The use of either type of application depends on the cultural practices in the region. In some locations, one type of application may provide better disease control than the other, depending on the timing of the disease epidemic. Seedling diseases are generally controlled by in-furrow applications while banded applications are more effective against soilborne diseases that develop later in the season. Consult your local expert to get some guidance regarding application type.

For banded applications, apply Abound prior to infection as a directed spray to the soil, using single or multiple nozzles, adjusted to provide thorough coverage of the lower stems and the soil surface surrounding the plants. Band width should be limited to 7 inches or less. Apply

Abound at a rate of 0.40-0.80 fl. oz. product (0.10-0.20 oz. a.i.)/1000 row feet (for banded applications on 22-inch rows the maximum application rate is 0.70 fl. oz./1000 row feet). These applications come into contact with the foliage and are counted as foliar applications when considering resistance management. They may be applied during cultivation or hilling operations to provide soil incorporation.

For in-furrow applications, apply Abound as an in-furrow spray in 3-15 gallons of water at planting. Mount the spray nozzle so the spray is directed into the furrow just before the seed are covered. Use the higher rate when the weather conditions are expected to be conducive for disease development, if the field has a history of Pythium problems, or if minimum/low till programs are in place.

**IN-FURROW APPLICATION RATES**

RATE PER 1000 ROW FEET		PRODUCT PER ACRE (fl. oz.)						
<i>fl. oz. product</i>	<i>oz. a.i.</i>	<i>22" rows</i>	<i>30" rows</i>	<i>32" rows</i>	<i>34" rows</i>	<i>36" rows</i>	<i>38" rows</i>	<i>40" rows</i>
0.40	0.10	9.5	7.0	6.5	6.1	5.8	5.5	5.2
0.60	0.15	14.3	10.5	9.8	9.2	8.7	8.3	7.8

40" = 13,068 row ft., 38" = 13,754 row ft., 36" = 14,520 row ft., 34" = 15,374 row ft., 32" = 16,315 row ft., 30" = 17,424 row ft., and 22" = 23,760 row ft./Acre

**DIRECTIONS FOR USE**

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Almonds	Alternaria leaf and fruit spot ( <i>Alternaria alternata</i> ) Anthracnose ( <i>Colletotrichum acutatum</i> ) Leaf Blight ( <i>Seimatosporium lichenicola</i> ) Leaf rust ( <i>Tranzschelia discolor</i> ) Scab ( <i>Cladosporium carpophilum</i> ) Shothole ( <i>Wilsonomyces carpophilus</i> )	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season following the resistance management guidelines. Applications may be made by ground, air (minimum 15 GPA) or chemigation. Abound may be applied by air only at growth stages prior to and including 5 weeks after petal fall. An adjuvant may be added at recommended rates.</p> <p>For anthracnose, scab and shothole, begin applications prior to disease development and continue at 7-14 day intervals throughout the season.</p> <p>For blossom blight, begin applications at early bloom and continue through petal fall.</p>
	Brown Rot Blossom Blight ( <i>Monilinia laxa</i> , <i>M. fructicola</i> )	12.0-15.5 (0.20-0.25)	
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 28 days of harvest.</p>			

16/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Artichoke, globe	Ramularia leaf spot ( <i>Ramularia cynarae</i> )	11.0-15.5 (0.18-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Begin applications prior to or in the early stages of disease development, and continue as needed throughout the season at a 2-3 week interval, up to and including the day of harvest. Do not apply at less than 7-day intervals. Applications may be made by ground, air or chemigation. For ground applications, apply in 50-200 gallons of water per acre to obtain coverage without excessive runoff. For aerial applications, apply in a minimum of 5 gallons of water per acre. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			
Asparagus	Stemphyllium purple spot ( <i>Stemphyllium vesicarium</i> )	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates. Use a minimum of 10 gallons of water per acre by ground, and minimum of 3 gallons per acre by air. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 100 days of harvest (100 day PHI).</p>			

17/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Bananas Plantains	Black Sigatoka ( <i>Mycosphaerella fijiensis</i> ) Yellow Sigatoka ( <i>Mycosphaerella musicola</i> )	5.5-8.5 (0.09-0.135)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes canopy management through removal of suckers, proper plant spacing, selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and good surface water drainage.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season every 12-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.08 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

18/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Barley	Kernel Blight ( <i>Alternaria</i> spp.) Leaf Rust ( <i>Puccinia hordei</i> )	6.0-12.0 (0.10-0.20)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes proper selection of varieties with disease tolerance, proper timing and placement of irrigation, removal of plant debris in which inoculum overwinters, plant residue management, and crop rotation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11. Do not make more than two (2) applications of Abound or other Group 11 fungicide per season.</p> <p><b>Application Directions:</b> Abound should be applied prior to disease development from jointing (Feekes 6 or Zadok's 31) up to late head emergence (Feekes 10.5 or Zadok's 59). Applications may be made by ground, air or chemigation. A crop oil concentrate adjuvant may be added at 1.0% v/v to optimize efficacy.</p>
	Net blotch ( <i>Pyrenophora teres</i> ) Barley Stripe ( <i>Pyrenophora graminea</i> )	9.0 - 12.0 (0.15 - 0.20)	
	Powdery Mildew ( <i>Erysiphe graminis f. sp. hordei</i> ) Stagonospora blotch ( <i>Stagonospora nodorum</i> )	12.0 (0.20)	
<p><b>Specific Use Restrictions:</b> Do not apply until after forage stage (Feekes 6 or Zadok's 31). Do not apply later than Feekes growth stage 10.5 (Zadok's growth stage 59). Do not harvest treated barley for forage. Do not apply more than 0.40 lb. a.i./A per season of azoxystrobin-containing products. Do not apply within 14 days of harvest for hay. Do not apply within 45 days of harvest for grain and straw.</p>			

19/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Berries</b> <b>Bushberry subgroup</b>  Blueberry Currant Elderberry Gooseberry Huckleberry Including all cultivars and/or hybrids of these  Lingonberry Juneberry Salal	Botryosphaeria canker ( <i>Botryosphaeria</i> spp.) Powdery mildew ( <i>Sphaerotheca</i> spp.) Septoria blight ( <i>Septoria</i> spp.) Mummyberry ( <i>Vaccinium</i> spp.) Alternaria Fruit Rot ( <i>Alternaria</i> spp.) Phomopsis stem canker ( <i>Phomopsis vaccinii</i> ) Anthracnose fruit rot ( <i>Colletotrichum gloeosporoides</i> )	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 0.75 lb. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			
<b>Berries</b> <b>Caneberry subgroup</b>  Blackberry Bingleberry Boysenberry Dewberry Lowberry Marionberry Olallieberry Youngberry Loganberry Red and black raspberry Including all cultivars and/or hybrids of these	Botryosphaeria canker ( <i>Botryosphaeria dothidea</i> ) Anthracnose ( <i>Spaceloma necator</i> ) ( <i>Elsinoe veneta</i> ) Powdery mildew ( <i>Sphaerotheca macularis</i> ) Leaf spot ( <i>Septoria rubi</i> ) ( <i>Sphaerulina rubi</i> ) Colletotrichum rot ( <i>Colletotrichum gloeosporioides</i> ) Spur blight ( <i>Didymella appianata</i> ) Rosette or double blossom of blackberries ( <i>Cercospora rubi</i> )	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Begin applications at onset of disease and continue as required until harvest. Make applications on a 7-14 day schedule. Use a minimum water volume of 10 gals. per acre by ground and a minimum of 3 gals. by air.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

20/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Brassica</b> <b>Head and Stem subgroup</b></p> <p>Broccoli Chinese broccoli [gai lon] Brussels sprouts Cabbage Chinese cabbage [napa] Chinese mustard cabbage [gai choy] Cauliflower Cavalo broccolo Kohlrabi Including all cultivars and/or hybrids of these</p>	<p>Alternaria leaf spot (<i>Alternaria</i> spp.)</p> <p>Downy mildew (<i>Peronospora parasitica</i>)</p>	<p>6.0-15.5 (0.10-0.25)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates. Use a minimum of 10 gals. of water per acre by ground, and minimum of 3 gals. per acre by air.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			
<p><b>Brassica</b> <b>Leafy Greens subgroup</b></p> <p>Broccoli raab Cabbage, Chinese Collards Kale Mizuna Mustard greens Mustard spinach Rape greens Including all cultivars and/or hybrids of these</p>	<p>White rust (<i>Albugo candida</i>) Black spot (<i>Alternaria</i> spp.) Cercospora leaf spot (<i>Cercospora</i> spp.)</p> <p><b>Soilborne Diseases</b> Seedling root rot, basal stem rot (<i>Rhizoctonia solani</i>)</p>	<p>6.0-15.5 (0.10-0.25)</p> <p>0.40-0.80 fl. oz./1000 row feet</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p> <p>For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 0.75 lb. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

21/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Bulb Vegetables</b>  Garlic Leek Onion, bulb Onion, green Welch onion Shallot	<b>Foliar Diseases</b> Cladosporium leaf blotch <i>(Cladosporium allii)</i> Purple blotch <i>(Alternaria porri)</i> Rust <i>(Puccinia allii)</i> White rot <i>(Sclerotium cepivorum)</i>	6.0-12.0 (0.10-0.20)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> For downy mildew, make preventative applications on a 5-7 day schedule. For all other diseases, Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. If applications are made by air, the higher rates should be used for adequate control. An adjuvant may be added at recommended rates.</p> <p>Mixtures of Abound with insecticides and silicone adjuvants should be tested for crop safety before application to the crop.</p> <p>For soilborne/seedling disease control, see directions under <b>GENERAL INFORMATION</b> section. If the application is an in-furrow application, the spray should be made just prior to seed placement so that the majority of the chemical is under the seed. This will reduce the potential for phytotoxicity, especially if fertilizer is added to the application.</p>
	Downy mildew <i>(Peronospora destructor)</i> Botrytis leaf blight <i>(Botrytis aclada)</i>	9.0-15.5 (0.15-0.25)	
	<b>Soilborne Diseases</b> Rhizoctonia damping-off <i>(Rhizoctonia solani)</i>	0.40-0.80 fl. oz./1000 row feet	
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products.            May be applied the day of harvest (0 day PHI).</p>			

2/16/03

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Canola</b> (see Oilseed Crops for additional information)</p>	<p>Blackleg (<i>Leptosphaeria maculans</i>) Alternaria blackspot (<i>Alternaria</i> spp.) Sclerotinia stem rot (<i>Sclerotinia sclerotiorum</i>)</p>	<p>6.0-15.5 (0.10-0.25)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, certified seed, seed treatment and crop rotation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> In general, apply 7.0 fl oz of Abound at early bud followed by 14.0 fl. oz. at about 45 days before harvest. A third application of 7.0 fl. oz. may be made 30 days before harvest.</p> <p>Specifically for blackleg, Abound applications should be made at the 2-4 leaf stage. For Alternaria or Sclerotinia, 9.0-15.5 fl. oz. product/A should be applied at 10-25% flowering (3-7 days following first flower). Use the higher rate under heavy disease pressure or when conditions are favorable for disease. For control of Alternaria alone, 8.0 fl. oz. product/A may be applied at pod stage (approximately 95% petal fall).</p> <p>Applications may be made by ground, air or chemigation. Use a minimum of 10 gallons of water per acre for ground applications.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 0.45 lb. a.i./A per season of azoxystrobin-containing products. Do not apply within 30 days of harvest.</p>			

23/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Carrots	Early blight ( <i>Cercospora carotae</i> ) Late blight ( <i>Alternaria dauci</i> ) White mold ( <i>Sclerotium rolfsii</i> )  For additional diseases, see <b>Vegetables, root,                      subgroup</b>	9.0-20.0 (0.15-0.33)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
	<b>Soilborne Diseases</b> Rhizoctonia root rot ( <i>Rhizoctonia solani</i> )	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<p><b>Specific Use Restrictions:</b> Do not apply more than 2.0 lbs. a.i./A per season of azoxystrobin-containing products.                      May be applied the day of harvest (0 day PHI).</p>			
Celery	Early blight ( <i>Cercospora apii</i> ) Late blight ( <i>Septoria apicola</i> )  For additional diseases, see <b>Leafy Vegetables</b>	9.0-15.5 (0.15-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
	<b>Soilborne Diseases</b> Rhizoctonia root rot ( <i>Rhizoctonia solani</i> )	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products.                      May be applied the day of harvest (0 day PHI).</p>			

24/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Christmas Trees	Diplodia tip blight ( <i>Diplodia pinea</i> ) Lophodermium needlecast ( <i>Lophodermium pinastri</i> ) Swiss needlecast ( <i>Phaeocryptopus gaumannii</i> )	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance and removal of plant debris in which inoculum may overwinter.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season at 7-21 day intervals following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 2.0 lbs. a.i./A per season of azoxystrobin-containing products.</p>			

25/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Citrus Fruit</b></p> <p>Calamondin Citron Citrus hybrids Grapefruit Kumquat Lemon Lime Mandarin Orange (sour and sweet) Pummelo Satsuma mandarin Tangerine Including all cultivars and/or hybrids of these</p>	<p>Greasy spot (<i>Mycosphaerella citri</i>) Melanose (<i>Diaporthe citri</i>) Scab (<i>Elsinoe fawcettii</i>) Albinism (<i>Alternaria alternata pv citri</i>) Post bloom fruit drop (PFD) (<i>Colletotrichum acutatum</i>) Alternaria leaf and fruit spot (<i>Alternaria citri</i>) Penicillium Decays Green mold, Whisker mold, suppression of Blue mold (<i>Penicillium spp.</i>) Diplodia stem-end rot (<i>Diplodia natalensis</i>) Phomopsis stem-end rot (<i>Phomopsis citrii</i>) Cercospora leaf spot (<i>Cercospora spp.</i>) Powdery Mildew (<i>Erysiphe spp.</i>)</p>	<p>12.0-15.5 (0.20-0.25)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and proper timing of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11. Do not make more than four (4) applications of Abound or other Group 11 fungicide per season.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on 7-21 day intervals following the resistance management guidelines. Under conditions that favor severe disease epidemics, the higher application rates should be used. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates. A horticultural spray oil should be used to improve control of greasy spot.</p>
<p>Pummelo Citrus Hybrid (Uniq fruit only)</p>	<p><b>Soilborne Diseases</b> Seedling root rot, basal stem rot (<i>Rhizoctonia solani</i>)</p>	<p>0.40-0.80 fl. oz./1000 row feet</p>	<p>For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.</p>
<p><b>Specific Use Restrictions:</b> Do not use Abound in citrus plant propagation nurseries. Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI)s</p>			

26/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Corn</b>  Field Pop Sweet (Includes Seed Production)	Rust ( <i>Puccinia sorghi</i> )	6.0-9.0 (0.10-0.15)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation, and water management practices.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11. For field corn and field corn grown for seed, do not make more than two (2) applications per season.</p> <p><b>Application Directions:</b> For gray leaf spot, apply Abound at the onset of disease. A second application may be required 14 days later if disease pressure persists. For all other diseases, Abound applications should begin prior to disease development and may continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p> <p>For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.</p>
	Anthracnose leaf blight ( <i>Colletotrichum graminicola</i> ) Gray leaf spot ( <i>Cercospora sorghi</i> ) Northern corn leaf blight ( <i>Setosphaeria turcica</i> ) Northern corn leaf spot ( <i>Cochliobolus carbonum</i> ) Southern corn leaf blight ( <i>Cochliobolus heterostrophus</i> ) Eye spot ( <i>Aureobasidium zeae</i> )	9.0-15.5 (0.15-0.25)	
	<b>Soilborne Diseases</b> Rhizoctonia root and stalk rot ( <i>Rhizoctonia solani</i> )	0.40-0.80 fl. oz./1000 row feet	
<p><b>Specific Use Restrictions:</b> Do not apply more than 2.0 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 7 days of harvest.</p>			
<b>Cotton</b>	Rhizoctonia seedling blight ( <i>Rhizoctonia solani</i> ) Pythium seedling blight ( <i>Pythium aphanidermatum</i> )	<b>In-Furrow</b> 0.40-0.80 fl. oz. product per 1000 row feet (0.10-0.20 oz a.i. per 1000 row feet)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper water management.</p> <p><b>Application Directions:</b> Apply Abound as an in-furrow spray in 3-7 gallons of water at planting. Mount the spray nozzle so the spray is directed into the furrow just before the seed are covered. Use the higher rate when the weather conditions are expected to be conducive for disease development, if the field has a history of Pythium problems, or if minimum/low till programs are in place.</p> <p>See <b>GENERAL INFORMATION</b> section for table illustrating total fluid ounces per acre with various row spacings.</p>
<p><b>Specific Use Restrictions:</b> Make only one application per use season.</p>			

27/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Cranberry	Cottonball <i>(Monilia oxycocci)</i> Lophodermium twig blight <i>(Lophodermium spp.)</i> Fruit rots <i>(Phyalospora vaccinii)</i> <i>(Glomerella cingulata)</i> <i>(Coleophoma empetri)</i>	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper water management.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Begin applications at 5-10% bloom for fruit rot, cottonball, and twig blight. Continue applications on a 7-14 day schedule if conditions are favorable for disease development. Applications may be made by ground, chemigation or air.</p>
<p><b>Specific Use Restrictions:</b> May be applied up to three days prior to harvest (3-day PHI).            Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products.            Do not treat cranberry fields used for aquaculture of fish and crustacea.            Do not apply when weather conditions favor drift from treated areas to non-target aquatic habitat. Applicators should use care in making applications near non-target aquatic habitats.            Do not apply to flooded crop.            Do not allow release of irrigation or flood water to non-target aquatic habitat for at least 14 days after the last application.</p>			

28/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Cucurbits</b></p> <p>Cantaloupe Chayote Chinese-waxgourd Cucumber Gourds Honeydew Melons <i>Momordica</i> spp. (bitter melon, balsam apple) Muskmelon Watermelon Pumpkin Squash Zucchini Including cultivars and/or hybrids of these</p>	<p>Anthracnose (<i>Colletotrichum lagenarium</i>) Belly Rot (<i>Rhizoctonia solani</i>) Downy Mildew (<i>Pseudoperonospora cubensis</i>) Gummy Stem Blight (<i>Didymella bryoniae</i>) Leaf spots (<i>Alternaria</i> spp., <i>Cercospora</i> spp.) Myrothecium canker (<i>Myrothecium roridum</i>) Plectosporium blight (<i>Plectosporium tabacinum</i>) Powdery Mildew (<i>Sphaerotheca fuliginea</i>, <i>Erysiphe cichoracearum</i>)</p>	<p>6.0-15.5 (0.10-0.25)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11. Do not make more than four (4) foliar applications of Abound or other Group 11 fungicides per crop per acre per year.</p> <p><b>Application Directions:</b> For both downy and powdery mildew, make preventative applications on a 5-7 day schedule. For belly rot control, the first application should be made at the 1-3 leaf crop stage with a second application just prior to vine tip over or 10-14 days later whichever occurs first. For all other diseases, Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p> <p>Abound should not be tank mixed with COC, MSO or silicon adjuvants. Abound should not be tank mixed with Malathion, Kelthane®, Thiodan®, Phaser®, Lannate®, Lorsban®, M-Pede® or Botran®.</p>
	<p><b>Soilborne diseases</b> Rhizoctonia root rot (<i>Rhizoctonia solani</i>)</p>	<p>0.40-0.80 fl. oz./1000 row feet</p>	<p>For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 1 day of harvest.</p>			

29/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Grapes</b>  Including Muscadines</p>	<p>Downy Mildew (<i>Plasmopara viticola</i>) Phomopsis cane and leaf spot (<i>Phomopsis viticola</i>) Powdery mildew (<i>Uncinula necator</i>) Black rot (<i>Guignardia bidwellii</i>)</p> <p><b>Suppression Only:</b> Botrytis bunch rot (<i>Botrytis cinerea</i>)</p>	<p>10.0-15.5 (0.16-0.25)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes canopy management through pruning and thinning, proper selection of varieties with disease tolerance, proper timing and placement of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential foliar applications of Abound or other Group 11 fungicides before alternating with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season every 10-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p> <p style="text-align: center;"><b>ATTENTION</b></p> <p>Abound is extremely phytotoxic to certain apple varieties.</p> <p>AVOID SPRAY DRIFT. Extreme care must be used to prevent injury to apple trees (and apple fruit).</p> <p>DO NOT spray Abound where spray drift may reach apple trees.</p> <p>DO NOT spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area.</p> <p>DO NOT use spray equipment which has been previously used to apply Abound to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity to certain apple and crabapple varieties.</p> <p>AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 14 days of harvest.</p>			

30/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Grasses</b> (grown for seed)	Rust ( <i>Puccinia</i> spp.) Powdery mildew ( <i>Erysiphe graminis</i> ) Ergot Stem Diseases	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation, crop rotation, and fertility.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 10-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 0.8 lbs. a.i./A per season of azoxystrobin-containing products. May be applied up to 8 days prior to harvest (swathing).</p>			

31/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Herbs &amp; Spices (except black pepper)</b>            Allspice; Angelica; Anise (seed); Anise, star; Annatto; Balm; Basil; Borage; Burnet; Camomile; Capar (buds); Caraway; Caraway, black; Cardamon; Cassia (buds); Catnip; Celery seed; Chervil (dried); Chive; Chive, Chinese; Cinnamon; Clary; Clove (buds); Coriander (cilantro or Chinese parsley) (leaf); Coriander (seed); Costmary; Culantro (leaf and seed); Cummin; Curry (leaf); Dill (seed); Dillweed; Fennel, common; Fennel, Florence (seed); Fenugreek; Grains of paradise; Horehound; Hyssop; Juniper (berry); Lavender; Lemongrass; Lovage (leaf and seed); Mace; Marigold; Marjoram; Mustard (seed), Nasturtium; Nutmeg; Parsley (dried); Pennyroyal; Pepper, white; Poppy seed; Rosemary; Rue; Saffron; Sage; Savory, summer and winter; Sweet bay; Tansy; Tarragon; Thyme; Vanilla; Wintergreen; Woodruff; Wormwood</p>	<p>Corynespora blight (<i>Corynespora cassiicola</i>)            Dill blight (<i>Cercosporidium punctum</i>)            Phoma blight (<i>Passalora puncta</i>)</p>	<p>6.0-15.5 (0.10-0.25)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin at the onset of disease development and continue throughout the season on a 7 day schedule, following the resistance management guidelines. Applications may be made by ground only. An adjuvant may be added at recommended rates. Use a minimum of 30 gallons of water per acre.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

32/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Leafy Vegetables (except brassica)</b></p> <p>Amaranth Arugula Cardoon Celery Celtuce Chervil Chrysanthemum, edible Coriander, leaves (Cilantro) Corn salad Cress Dandelion Dock Endive Fennel Lettuce, head and leaf Orach Parsley Purslane Radicchio Rhubarb Spinach Swiss Chard Including cultivars and/or hybrids of these</p>	<p><b>Foliar Diseases</b> Alternaria leaf spot <i>(Alternaria sonchi, A.spp.)</i> Cercospora leaf spot <i>(Cercospora spp.)</i> Anthracnose <i>(Microdochium panattonianum, Colletotrichum dematium)</i> Septoria leaf spot <i>(Septoria petroselini)</i> White rust <i>(Albugo occidentalis)</i></p> <hr/> <p>Downy mildew <i>(Bremia lactucae)</i> Powdery mildew <i>(Erysiphe cichoracearum)</i></p> <hr/> <p><b>Soilborne Diseases</b> Webb blight, Bottom rot, Crater rot, Root rot <i>(Rhizoctonia solani)</i></p>	<p>6.0-15.5 0.10-0.25</p> <hr/> <p>12.0-15.5 (0.20-0.25)</p> <hr/> <p>0.40-0.80 fl. oz./1000 row feet</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> For both downy and powdery mildew, make preventative applications on a 5-7 day schedule. For all other diseases, Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p> <p><b>ATTENTION:</b> Applications of Abound to leafy vegetable foliage have contributed to phytotoxicity under certain circumstances. Proceed with caution with regard to tank mixes and adjuvants when treating all leafy vegetables with Abound. Abound must not be tank mixed on leaf lettuce with AMBUSH® WP, Pounce® WP, Aliette®, Warrior® with Zeon™ Technology, or another product that may increase the penetration of Abound into the leaf surface, such as, but not limited to, silicone wetters.</p> <p>For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

33/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b>Legume Vegetables, dry and succulent</b>  <u>Bean (<i>Lupinus</i> spp.)</u>            (includes grain lupin, sweet lupin, white lupin, and white sweet lupin)  <u>Bean (<i>Phaseolus</i> spp.)</u>            (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean)  <u>Bean (<i>Vigna</i> spp.)</u>            (includes adzuki bean, asparagus bean, blackeyed pea, cowpea, catjang, Chinese longbean, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean)  <u>Broad bean (fava bean) (<i>Vicia faba</i>)</u>  <u>Chickpea (garbanzo bean) (<i>Cicer arietinum</i>)</u>  <u>Guar (<i>Cyamopsis tetragonoloba</i>)</u>  <u>Jackbean (<i>Canavalia ensiformis</i>)</u>  <u>Lablab bean (hyacinth bean) (<i>Lablab purpureus</i>)</u>  <u>Lentil (<i>Lens esculenta</i>)</u>  <u>Pea (<i>Pisum</i> spp.)</u>            (includes dwarf pea, edible-pod pea, English pea, garden pea, green pea, field pea, snow pea, sugar snap pea)  <u>Pigeon pea (<i>Cajanus cajan</i>)</u>  <u>Sword bean (<i>Canavalia gladiata</i>)</u></p>	<p>Bean rust (<i>Uromyces appendiculatus</i>)</p>	<p>6.0 (0.10)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, proper timing and placement of irrigation, crop rotation and crop residue management.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Use the higher rates under severe disease pressure. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates. For rust, use of a non-ionic surfactant is recommended.</p>
	<p>Anthracnose (<i>Colletotrichum lindemuthianum</i>)            Alternaria leaf spot (<i>Alternaria alternata</i>)            Ascochyta leaf spot (<i>Ascochyta phaseolorum</i>)            Rust (<i>Phakopsora</i> spp.)            Southern blight (<i>Sclerotium rolfsii</i>)            Web blight (<i>Rhizoctonia solani</i>)            Ascochyta blight (<i>Mycosphaerella pinodes</i>)            Ascochyta leaf and pod spot (<i>Ascochyta</i> spp.)            Alternaria blight (<i>Alternaria</i> spp.)</p>	<p>6.0-15.5 (0.10-0.25)</p>	
	<p><b>Soilborne Diseases</b>            Rhizoctonia root rot (<i>Rhizoctonia solani</i>)</p>	<p>0.40-0.80 fl. oz./1000 row feet</p>	
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products.            For use on soybeans, please refer to the soybean crop directions for use.            Do not apply within 14 days of harvest of dry legume vegetables (dry bean and dry pea seeds).            May be applied the day of harvest (0 day PHI) for succulent beans and peas.</p>			

34/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Legume Vegetables, Foliage of</b> Any cultivar of bean ( <i>Phaseolus</i> spp.) and field pea ( <i>Pisum</i> spp.)	Bean rust ( <i>Uromyces appendiculatus</i> )	6.0 (0.10)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, proper timing and placement of irrigation, crop rotation and crop residue management.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Use the higher rates under severe disease pressure. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates. For rust, use of a non-ionic surfactant is recommended.</p>
	Anthracnose ( <i>Colletotrichum lindemuthianum</i> ) Alternaria leaf spot ( <i>Alternaria alternata</i> ) Ascochyta leaf spot ( <i>Ascochyta phaseolorum</i> ) Rust ( <i>Phakopsora</i> spp.) Southern blight ( <i>Sclerotium rolfsii</i> ) Web blight ( <i>Rhizoctonia solani</i> ) Ascochyta blight ( <i>Mycosphaerella pinodes</i> ) Ascochyta leaf and pod spot ( <i>Ascochyta</i> spp.) Alternaria blight ( <i>Alternaria</i> spp.)	6.0-15.5 (0.10-0.25)	
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. For use on soybeans, please refer to the soybean crop directions for use. May be applied the day of harvest (0 day PHI).</p>			

35/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Mint</b> (Fresh or for processing into mint oil)	Rust ( <i>Puccinia menthae</i> ) Powdery mildew ( <i>Erysiphe</i> spp.)	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-10 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
	<b>Soilborne Diseases</b> Seedling root rot, basal stem rot ( <i>Rhizoctonia solani</i> )	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<p><b>Specific Use Restrictions:</b> Do not apply more than 0.75 lb. a.i./A per season of azoxystrobin-containing products. For fresh mint, may be applied the day of harvest (0 day PHI). For processed mint, do not apply within 7 days of harvest.</p>			
<b>Oilseed Crops</b>  Crambe Flax Mustard, Indian Mustard, Field Mustard, Black Rapeseed Rapeseed, Indian Safflower Sunflower	Downy mildew ( <i>Plasmopora halstedii</i> , <i>Plasmopora helianthi</i> )  Alternaria leaf spot ( <i>Alternaria</i> spp.)	6.0-15.5 (0.1-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance and crop rotation to reduce plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Apply 7.0 fl oz of Abound at early bud followed by 14.0 fl. oz. at about 45 days before harvest. A third application of 7.0 fl. oz. may be made 30 days before harvest. Applications may be made by ground, air or chemigation. Use a minimum of 10 gallons of water per acre for ground applications.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 0.45 lb. a.i./A per season of azoxystrobin-containing products. Do not apply within 30 days of harvest.</p>			

36/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Peanuts	<b>Soilborne Diseases – early season (in-furrow application)</b> Aspergillus crown rot <i>(Aspergillus niger)</i> Pythium damping off <i>(Pythium spp.)</i> Stem rot/White mold suppression <i>(Sclerotium rolfsii)</i>	0.40-0.80 fl. oz./ 1000 row feet	<b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, proper timing and placement of irrigation, crop rotation and crop residue management.  <b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.
	<b>Soilborne Diseases – mid-late season</b> Rhizoctonia peg and pod rot <i>(Rhizoctonia solani)</i> Stem rot/White mold <i>(Sclerotium rolfsii)</i>  <b>Suppression Only:</b> Pythium pod rot <i>(Pythium myriotylum)</i> Cyliandrocladium black rot <i>(Cyliandrocladium crotalariae)</i>	12.0-24.5 (0.20-0.40)	<b>Application Directions:</b> Apply Abound in-furrow at planting for control of various seed/seedling diseases including early season suppression of stem rot. See directions and rates under <b>GENERAL INFORMATION</b> section.  Abound should be applied at approximately 60 and 90 days after planting as a foliar application. This application regime may be applied earlier in the season if environmental conditions favor disease development. These two applications of Abound will provide protection against the soil borne diseases and will also provide control of the foliar diseases listed for a 10-14 day period after each spray. Under heavy disease pressure and/or where there is high rainfall and/or irrigation, use 18.5-24.5 oz./A. For light disease pressure and dry environmental conditions (non-irrigated, low rainfall), use 12.0-24.5 oz./A. For control of Pythium, a rate of 24.5 fl. oz./A is required. Additional applications of other fungicides on a leaf spot application schedule will be required to provide season-long disease control of the leaf spot diseases. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.
	<b>Foliar Diseases</b> Early leaf spot <i>(Cercospora arachidicola)</i> Late leaf spot <i>(Cercosporidium personatum)</i> Rust <i>(Puccinia arachidis)</i> Web blotch <i>(Phoma arachidicola)</i>	6.0-18.5 (0.10-0.30)	For foliar disease control only, a lower rate of Abound may be applied on a 10-14 day interval.
<b>Specific Use Restrictions:</b> Do not apply more than 0.80 lb. a.i./A per season of azoxystrobin-containing products. Do not apply within 14 days of harvest.			

37/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Pecans	Anthracnose ( <i>Glomerella cingulata</i> ) Scab ( <i>Cladosporium caryigenum</i> )	6.0-12.0 (0.10-0.20)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with tolerance to disease and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on 7-21 day intervals following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.2 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 45 days of harvest.</p>			
<p><b>Peppers and other Fruiting Vegetables (except cucurbits)</b></p> <p><b>Pepper</b> Bell Pepper Non-Bell Pepper Sweet Non-Bell Pepper</p> <p><b>Eggplant</b> <b>Groundcherry</b> <b>Okra</b> <b>Pepino</b> <b>Tomatillo</b></p>	Powdery mildew ( <i>Sphaerotheca</i> spp.) Anthracnose ( <i>Colletotrichum</i> spp.)	6.0-15.5 (0.10- 0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>See specific directions for use for Tomatoes</b></p>	<p><b>Soilborne Diseases</b> Rhizoctonia seedling rot (<i>Rhizoctonia solani</i>)</p>	0.40-0.80 fl. oz./1000 row feet	<p>For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.0 lb. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

38163

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Pistachios	Alternaria Late Blight <i>(Alternaria alternata)</i> Botryosphaeria panicle and shoot blight <i>(Botryosphaeria dothidea)</i> Septoria leaf spot <i>(Septoria pistaciarum)</i>	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on 7-21 day intervals following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 7 days of harvest.</p>			

39/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Potatoes	Early Blight ( <i>Alternaria solani</i> ) Late Blight ( <i>Phytophthora infestans</i> ) Black dot ( <i>Colletotrichum coccodes</i> ) Powdery mildew ( <i>Erysiphe cichoracearum</i> )	6.0-20.0 (0.10-0.33)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes removal of plant debris in which inoculum overwinters, selection of varieties with tolerance to disease, clean certified seed, seedpiece treatment, and disease forecasting.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b>  <b>Early blight</b> - For a 7-day application schedule, use Abound 6.0 fl. oz. product/A. If the interval is increased to 14 days, use the 12.0 fl. oz. product/A rate.   <b>Late blight</b> - Apply Abound at 12.0 fl. oz. product/A on a 7-day schedule. Initiate late blight applications in a preventative schedule prior to disease development according to local practices. If late blight symptoms develop or conditions favor disease, switch immediately to a non-Group 11 fungicide, using a 5-day schedule. Addition of a spreader/sticker may improve coverage.</p> <p>For all other diseases, Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Use the high rate and the shorter interval if disease epidemics are severe. Applications may be made by ground, air or chemigation.</p>
	<b>Soilborne Diseases</b> Black scurf ( <i>Rhizoctonia solani</i> ) Silver scurf ( <i>Helminthosporium solani</i> ) Black dot ( <i>Colletotrichum coccodes</i> )	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<p><b>Specific Use Restrictions:</b> Do not apply more than 2.0 lbs. a.i./A per season of azoxystrobin-containing products. Do not apply within 14 days of harvest.</p>			

40/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Rice	<b>Sheath/Stem Diseases</b> Sheath Blight <i>(Rhizoctonia solani)</i>	6.0-18.5 (0.10-0.30)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation, and sound water management practices.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. When Abound is being applied for panicle blast on continuous rice acreage (no rotation to other crops), no more than two sequential foliar applications of Abound or other Group 11 fungicides should be made over multiple years before alternating with a fungicide with a different mode of action. Do not make more than two (2) foliar applications of Abound or other Group 11 fungicides per acre per season.</p> <p><b>Application Directions:</b> Abound should be applied prior to disease development. Applications may be made by ground, air or chemigation. For aerial application, volumes should be 5-10 GPA. An adjuvant may be added at recommended rates.</p> <p>For sheath blight control, application rates may vary from 9.0 to 12.0 fl. oz./A depending on the growth stage of the rice and the severity of the disease. Consult with your local extension personnel or Syngenta representative for the Syngenta Technical Bulletin on sheath blight control.</p> <p>For other stem/sheath diseases including stem rot, black sheath rot, aggregate sheath spot and sheath spot, apply when disease is less than 4 inches above water line usually between panicle differentiation (PD) +5 days to PD +10 days or at initial sign of disease. Under heavy disease pressure and conditions favorable for disease development, a second application may be applied.</p> <p>For foliar and panicle diseases, apply Abound prior to disease development. Abound must be applied as a preventative treatment for blast control and applied prior to favorable conditions for blast development. For panicle blast, an application should be applied at mid-boot to boot-split but prior to full head emergence. A second application should be applied when panicles are approximately 60-90% emerged from the boot (7-14 days later).</p>
	Aggregate Sheath Spot <i>(Rhizoctonia oryzae-sativae)</i> Black Sheath Rot <i>(Gaeumannomyces graminis var. graminis)</i> Sheath Spot <i>(Rhizoctonia oryzae)</i> Stem Rot <i>(Sclerotium oryzae)</i>	9.0-18.5 (0.15-0.30)	
	<b>Foliar Diseases</b> Brown Leaf spot <i>(Cochliobolus miyabeanus)</i> Leaf Smut <i>(Entyloma oryzae)</i> Narrow Brown Leaf spot <i>(Cercospora oryzae)</i>		
	<b>Panicle Diseases</b> Kernel Smut <i>(Neovossia barclayana)</i> Panicle Blast <i>(Pyricularia grisea)</i>		
<p><b>Specific Use Restrictions:</b> Do not treat rice fields used for aquaculture of fish and crustacea. Do not apply when weather conditions favor drift from treated areas to non-target aquatic habitat. Applicators should use care in making applications near non-target aquatic habitats.</p> <p>Do not apply more than 0.70 lb. a.i./A per season of azoxystrobin-containing products.</p> <p>Do not apply within 28 days of harvest.</p> <p>Do not allow release of irrigation or flood water for at least 14 days after the last application.</p>			

41163

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Soybeans	Aerial blight ( <i>Rhizoctonia solani</i> ) Anthracnose ( <i>Colletotrichum truncatum</i> ) Alternaria leaf spot ( <i>Alternaria</i> spp.) Brown spot ( <i>Septoria glycines</i> ) Cercospora blight and leaf spot ( <i>Cercospora kikuchii</i> ) Frogeye leafspot ( <i>Cercospora sojina</i> ) Pod and stem blight ( <i>Diaporthe phaseolorum</i> ) Rust ( <i>Phakopsora</i> spp.)	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development. Use the high rates under conditions favorable for severe disease pressure, dense plant canopies, or when susceptible varieties are planted. Contact Extension personnel for local economic thresholds and timings for specific diseases in your area. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates. Use of a crop oil concentrate or non-ionic surfactant with the lower use rate is recommended.</p> <p>Soybean rust: Abound may be used at 4 fl. oz./A when tank mixed with a triazole registered for use on soybean rust.</p>
	<b>Soilborne Diseases</b> Southern blight ( <i>Sclerotium rolfsii</i> ) Rhizoctonia solani ( <i>Rhizoctonia solani</i> )	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products.                      Do not make more than one application at 15.5 fl. oz. product/acre or 0.25 lb. a.i./A to soybean forage and hay.                      Do not apply within 14 days of harvest of soybeans (bean).                      May be applied the day of harvest to soybean forage and hay.</p>			

42/63



Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Strawberry	Anthracnose ( <i>Colletotrichum fragariae</i> ) Powdery mildew ( <i>Sphaerotheca macularis</i> )  Suppression of Botrytis on the foliage ( <i>Botrytis cinerea</i> )	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-10 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p> <p><b>For dip applications at transplanting for commercial berry production:</b> For suppression of root and crown rot caused by <i>Colletotrichum</i> spp., mix 5-8 fl. oz. of Abound per 100 gals. of water. Dip plants for 2-5 minutes. Plant treated plants as quickly as possible. It is recommended that transplants be washed to remove excess soil prior to dipping. For continued anthracnose control, follow with foliar applications beginning 2-3 weeks after transplant.</p>
	<b>Soilborne Diseases</b> Seedling root rot, basal stem rot ( <i>Rhizoctonia solani</i> )	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<p><b>Specific Use Restrictions:</b> Do not use in plant propagation nurseries.            Do not apply more than 1.0 lb. a.i./A per season of azoxystrobin-containing products.            May be applied the day of harvest (0 day PHI).</p>			

44/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Tobacco	<p>Blue mold (<i>Peronospora tabacina</i>)</p> <p>Frog-eye leafspot (<i>Cercospora nicotianae</i>)</p> <p>Target spot (<i>Rhizoctonia solani</i>)</p>	6.0-12.0 (0.1-0.2)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes proper selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development or at first indication that blue mold is in the area. Do not apply Abound as a curative application. If blue mold is present in the field, initiate applications with Acrobat MZ<sup>®</sup> prior to a Abound application. Apply on a 7-14 day interval with shorter intervals under conditions conducive to disease development. For ground applications, apply Abound in sufficient water volume for adequate coverage and canopy penetration. For aerial application, volumes should be 10-15 GPA. Applications may be made by ground, air or chemigation.</p> <p><b>NOTE:</b> Abound may enhance weather flecking on the leaves of certain tobacco types. This does not affect yield and quality.</p>
<p><b>Specific Use Restrictions:</b>            Do not apply more than 0.52 lb. a.i./A per season of azoxystrobin-containing products.            Do not tank mix with Thiodan.            May be applied up to day of harvest.            Tank mixing Abound with insecticides formulated as ECs or containing high amounts of solvents, may cause some crop injury.</p>			

45/03

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Tomatoes	Anthracnose ( <i>Colletotrichum coccodes</i> ) Black Mold ( <i>Alternaria alternata</i> ) Buckeye Rot ( <i>Phytophthora</i> spp.) Early Blight ( <i>Alternaria solani</i> ) Powdery Mildew ( <i>Oidiopsis sicula</i> ) Septoria Leaf spot ( <i>Septoria lycopersici</i> ) Target spot ( <i>Corynespora cassiicola</i> )	5.0-6.0 (0.08-0.10)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes proper selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season following the resistance management guidelines. For late blight, Abound should be applied at 5-7 day intervals. For all other tomato diseases, Abound should be applied on 7-21 day intervals. Applications may be made by ground, air or chemigation.</p>
	Late Blight ( <i>Phytophthora infestans</i> )	6.0 (0.10)	Use of an adjuvant may result in severe phytotoxicity.
<p><b>Specific Use Restrictions:</b> Abound should not be applied until 21 days after transplanting or 35 days after seeding. Do not apply more than 0.60 lb. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

46/63



Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Tropical Fruit</b> Acerola Atemoya Avocado Biriba Canistel Cherimoya Custard apple Feijoa Guava Ilama Jaboticaba Jackfruit Longan Loquat Lychee Mango Papaya Passionfruit Pawpaw Persimmon Pulasan Rambutan Sapodilla Sapote, black Sapote, mamey Sapote, white Soursop Star apple Starfruit Sugar apple Spanish lime Tamarind	Anthracnose ( <i>Colletotrichum</i> spp.) Rust ( <i>Puccinia</i> spp.) Cercospora leaf spot ( <i>Cercospora</i> spp.) Powdery Mildew ( <i>Erysiphe</i> spp.)	6.0-15.5 0.10-0.25	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 10-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
	<b>Soilborne Diseases</b> Seedling root rot, basal stem rot ( <i>Rhizoctonia solani</i> )	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).</p>			

48/63

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Vegetables, leaves of root and tuber, group</b>  Beet, garden and sugar Burdock Carrot Cassava, bitter and sweet Celeriac (celery root) Chervil, turnip-rooted Chicory Dasheen (taro) Parsnip Radish Radish, oriental (daikon) Rutabaga Salsify, black Sweet potato Tanier Turnip Yam, true	<b>Foliar Diseases</b> Alternaria leaf spot <i>(Alternaria spp., A. alternata)</i> Ascochyta leaf spot <i>(Ascochyta cynarae)</i> Rust <i>(Uromyces betae, Puccinia helianthi)</i> White rust <i>(Albugo tragopogonis)</i>	6.0-20.0 (0.10-0.33)	<b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.  <b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than one application of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.  <b>Application Directions:</b> For powdery mildew, make preventative applications on a 5-7 day schedule. For all other diseases, Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.
	Cercospora leaf spot <i>(Cercospora betae, C. pastinaceae)</i> Powdery mildew <i>(Erysiphe polygoni, Leveillula taurica)</i>	9.0-15.5 (0.15-0.25)	
	<b>Soilborne Diseases</b> Circular spot, Southern blight <i>(Sclerotium rolfsii)</i> Rhizoctonia stem canker, Crown rot <i>(Rhizoctonia solani)</i> Pythium root rot <i>(Pythium aphanidermatum)</i>	0.40-0.80 fl. oz./1000 row feet	For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.
<b>Specific Use Restrictions:</b> Do not apply more than 2.0 lbs. a.i./A per season of azoxystrobin-containing products. May be applied the day of harvest (0 day PHI).			

49163





Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Watercress	Cercospora leaf spot ( <i>Cercospora</i> spp.)	6.0-15.5 (0.10-0.25)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes varieties with disease tolerance, insect control and proper fertilization.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development and continue throughout the season on a 7-10 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p>
<p><b>Specific Use Restrictions:</b> Do not apply more than 1.44 quarts per cutting. Do not apply more than 1.5 lbs. a.i./A per season of azoxystrobin-containing products. May be applied up to 7 days prior to harvest.</p>			
Wheat Triticale	Leaf Rust ( <i>Puccinia recondita</i> f.sp. <i>tritici</i> ) Stripe Rust ( <i>Puccinia striiformis</i> ) Stem Rust ( <i>Puccinia graminis</i> ) Septoria Leaf and Glume Blotch ( <i>Septoria tritici</i> , <i>Septoria nodorum</i> ) Tan Spot ( <i>Pyrenophora tritici- repentis</i> )	4.0-12.0 (0.07-0.20)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes proper selection of varieties with disease tolerance, proper timing and placement of irrigation, removal of plant debris in which inoculum overwinters, plant residue management, and crop rotation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11. Do not make more than two (2) applications of Abound or other Group 11 fungicide per season.</p> <p><b>Application Directions:</b> Abound should be applied prior to disease development from jointing (Feekes 6 or Zadok's 31) up to late head emergence (Feekes 10.5 or Zadok's 59). Applications may be made by ground, air or chemigation. A crop oil concentrate adjuvant may be added at 1.0% v/v to optimize efficacy.</p>
<p><b>Specific Use Restrictions:</b> Do not apply until after forage stage (Feekes 6 or Zadok's 31). Do not apply later than Feekes growth stage 10.5 (Zadok's growth stage 59). Do not harvest treated wheat for forage. Do not apply more than 0.40 lb. a.i./A per season of azoxystrobin-containing products. Do not apply within 14 days of harvest for hay. Do not apply within 45 days of harvest for grain and straw.</p>			

52/63

## Abound Rate Conversion Chart

Fluid Ounces Product/A	Lb. a.i./A	Treated Acres/Gal. Product
4.0	0.07	32.0
5.0	0.08	25.6
5.5	0.09	23.2
6.0	0.10	21.3
7.0	0.11	18.3
8.5	0.14	15.4
9.0	0.15	14.2
10.0	0.16	13.0
11.0	0.18	11.6
12.0	0.20	10.4
13.0	0.21	9.8
14.0	0.23	9.1
15.5	0.25	8.3
18.5	0.30	6.9
20.0	0.33	6.4
24.5	0.40	5.2

**POST HARVEST APPLICATIONS**

Crop	Target Diseases	Use Rate	Remarks								
<b>Bananas</b> <b>Plantains</b>	Crown Rot/Crown Mold <i>(Colletotrichum musae,</i> <i>Fusarium pallidoroseum,</i> <i>Acremonium spp.,</i> <i>Ceratocystis paradoxa,</i> <i>Glomerella cingulata,</i> <i>Penicillium spp.)</i>	200-400 ppm solution	<p>Apply Abound as a single application of a 200-400 ppm solution to achieve good coverage. The application may be made as a spray, dip or may be painted onto the cut ends of the bananas. Application of the 200 ppm rate is appropriate for short distance transportation (e.g. within the USA). When a longer time in transport is expected (export), use the 300-400 ppm rate. If alum (1% w/v) is added to the spray solution, stir the suspension frequently as sedimentation and flocculation may occur. Addition of a non-ionic surfactant (0.10% v/v) may improve the compatibility of this mixture.</p> <p><b>Amount of Abound to Mix 100 Gallons for Post-Harvest Banana Applications</b></p> <table border="1" data-bbox="1129 662 1491 829"> <thead> <tr> <th data-bbox="1129 662 1321 743">Abound Use Rate</th> <th data-bbox="1321 662 1491 743">100.0 gals. Spray Solution</th> </tr> </thead> <tbody> <tr> <td data-bbox="1129 743 1321 776">200 ppm</td> <td data-bbox="1321 743 1491 776">11 fl. oz.</td> </tr> <tr> <td data-bbox="1129 776 1321 808">300 ppm</td> <td data-bbox="1321 776 1491 808">15 fl. oz.</td> </tr> <tr> <td data-bbox="1129 808 1321 829">400 ppm</td> <td data-bbox="1321 808 1491 829">21 fl. oz.</td> </tr> </tbody> </table>	Abound Use Rate	100.0 gals. Spray Solution	200 ppm	11 fl. oz.	300 ppm	15 fl. oz.	400 ppm	21 fl. oz.
Abound Use Rate	100.0 gals. Spray Solution										
200 ppm	11 fl. oz.										
300 ppm	15 fl. oz.										
400 ppm	21 fl. oz.										
<p><b>Specific Use Restrictions:</b> Do not make more than one applications to banana as post-harvest treatment. Abound may be degraded by exposure to direct sunlight. Do not store treated fruit in direct sunlight.</p>											

54/63

Crop	Target Diseases	Use Rate	Remarks
<p><b>Citrus Fruit</b></p> <p>Calamondin Citron Citrus hybrids Grapefruit Kumquat Lemon Lime Mandarin Orange (sour and sweet) Pummelo Satsuma mandarin Tangerine Uniq fruit hybrid Including all cultivars and/or hybrids of these</p>	<p>Penicillium Decays Green mold, Whisker mold, suppression of Blue mold (<i>Penicillium</i> spp.) Diplodia stem-end rot (<i>Diplodia natalensis</i>) Phomopsis stem-end rot (<i>Phomopsis citrii</i>)</p>	<p>See Remarks</p>	<p>Use Abound as a dip, drench, flood, or spray for the control of certain post-harvest diseases.</p> <p><b>For high volume (dilute) applications:</b> Mix 32-64 fl. oz. of Abound in 25-100 gal. of an appropriate water, wax/oil emulsion, or aqueous dilution of a wax/oil emulsion for the crop being treated. Use T-Jet, flooders, or similar application systems.</p> <p><b>For low volume (concentrate) applications:</b> Mix 32-64 fl. oz. of Abound in 7-25 gal. of water, wax/oil emulsion, or aqueous dilution of wax/oil emulsion for the crop being treated. Apply to 250,000 lb. of fruit. Use a controlled-droplet type of applicator or similar system.</p> <p><b>For dip applications:</b> Mix 32-64 fl. oz. of Abound in 100 gal of water, wax/oil emulsion, or aqueous dilution of wax/oil emulsion. Dip for approx. 30 sec. and allow fruit to drain. For maximum decay control, treat citrus fruit once before storage and once after storage, just prior to marketing.</p>
<p><b>Specific Use Restrictions:</b> Do not make more than two applications to citrus fruit as post-harvest treatments. Abound may be degraded by exposure to direct sunlight. Do not store treated fruit in direct sunlight.</p>			

55/63

## TURF

### **Golf Course Turf (Not for use in California)**

Commercial Turf farms (Not for use in California) Abound is recommended for control of anthracnose, brown patch, cool weather brown patch (yellow patch), Fusarium patch, gray leaf spot, gray snow mold (Typhula blight), leafspot, melting out, necrotic ring spot, pink patch, pink snow mold, Pythium blight, Pythium root rot, red thread, Rhizoctonia large patch, southern blight, spring dead spot, summer patch, take-all patch, and Zoysia patch on golf courses, lawns and landscape areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

**Integrated Pest (Disease) Management:** Sound turf management resulting in healthy, vigorous turf is the foundation of a good IPM program. Cultural practices such as proper choice of turf variety, nutrient management, proper cutting height, thatch management, and proper watering, drainage, and moisture stress management should be integrated with the use of fungicides to increase turf vigor and reduce the susceptibility to disease. Immunoassay detection kits and extension service diagnostic services can assist in the early and accurate identification of causal organisms and corresponding selection of the proper fungicide when required.

**Resistance Management:** Some turf disease pathogens are known to have developed resistance to products used repeatedly for their control. Abound should be applied in a tank mix or alternation program with other registered fungicides that have a different mode of action and to which pathogen resistance has not developed. Do not apply more than two sequential Abound applications for *Pythium* spp. control. For all other diseases when *Pythium* spp. is not present, do not apply more than three sequential applications of Abound.

**Application Directions:** Abound should be applied prior to disease development. Mix Abound with the required amount of water and apply as a dilute spray application in 2-4 gallons of water per 1000 square feet (87-174 gallons per acre). Repeat applications at specified intervals for as long as required. For spot treatments, use 0.40 fl. oz. Abound per 1 to 2 gallons of water. Do not apply more than 9.6 quarts product/acre/year (7.1 fl. oz. product/1000 square feet/year). Applications may be made by ground only.

**Rate Ranges:** Use the shortest specified application interval and/or use the higher specified rate when prolonged favorable disease conditions exist.

**Dollar Spot:** Abound does not control dollar spot. Abound is compatible in tank mixes with many other fungicides that control dollar spot. Always tank mix Abound with another fungicide that controls dollar spot when this disease is present. Follow directions under TANK MIXES/COMPATIBILITY above.

**DIRECTIONS FOR APPLICATION FOR TURF DISEASES**

<b>Target Diseases</b>	<b>Use Rate (fl. oz. product per 1000 sq. ft.)</b>	<b>Application Interval (days)</b>	<b>Remarks*</b>
Anthracnose ( <i>Colletotrichum graminicola</i> )	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Brown Patch ( <i>Rhizoctonia solani</i> )	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Cool Weather Brown Patch Yellow Patch ( <i>Rhizoctonia cerealis</i> )	0.38-0.77	28	Make one or two applications in fall or when conditions are favorable for disease development.
Fusarium Patch ( <i>Microdochium nivale</i> )	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Gray Leaf Spot ( <i>Pyricularia grisea</i> )	0.38-0.77	14-28	Begin applications before disease is present and continue applications while conditions are favorable for disease development.
Gray Snow Mold Typhula blight ( <i>Typhula incarnata</i> , <i>T. ishikariensis</i> )	1.35 0.77	single application 14	Make a single application of 1.35 fl. oz. or two applications of 0.77 spaced 14 days apart in late fall just before snow cover. Tank mixing with another snow mold fungicide may enhance control under severe disease pressure.
Leafspot ( <i>Bipolaris sorokiniana</i> )	0.38-0.77	14-21	Apply when conditions are favorable for disease development.
Melting Out ( <i>Drechslera poae</i> )	0.38-0.77	14-21	Apply when conditions are favorable for disease development
Necrotic Ring Spot ( <i>Leptosphaeria korrae</i> )	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Pink Patch ( <i>Limonomyses roseipellis</i> )	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Pink Snow Mold ( <i>Microdochium nivale</i> )	1.35 0.77	single application 14	Make a single application of 1.35 fl. oz. or two applications of 0.77 spaced 14 days apart in late fall just before snow cover. Tank mixing with another snow mold fungicide may enhance control under severe disease pressure.
Pythium Blight Pythium Root Rot ( <i>Pythium aphanidermatum</i> , <i>Pythium</i> spp.)	0.38-0.77	10-14	Begin applications before disease is present. During periods of prolonged favorable conditions, treat on the 10 day application interval. For use on newly seeded as well as established turf.
Red Thread ( <i>Laetisaria fuciformis</i> )	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Rhizoctonia Large Patch	0.38-0.77	28	Make one or two applications in fall

58/63

Target Diseases	Use Rate (fl. oz. product per 1000 sq. ft.)	Application Interval (days)	Remarks*
<i>(Rhizoctonia solani)</i>			or when conditions are favorable for disease development.
Southern Blight <i>(Sclerotium rolfsii)</i>	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Spring Dead Spot <i>(Leptosphaeria korrae)</i> or <i>(Gaeumannomyces graminis var. graminis)</i> or <i>(Ophiosphaerella herpotricha)</i>	0.38-0.77	28	Make one or two applications in fall or when conditions are favorable for disease development.
Summer Patch <i>(Magnaporthe poae)</i>	0.38-0.77	14-28	Apply when conditions are favorable for disease development.
Take-all patch <i>(Gaeumannomyces graminis var. avenae)</i>	0.38-0.77	28	Make two applications, 28 days apart in the spring and two applications 28 days apart in the fall.
Zoysia Patch <i>(Rhizoctonia solani and/or Gaeumannomyces incrustana)</i>	0.38-0.77	28	Make one or two applications in late fall before snow cover or when conditions are favorable for disease development. Do not apply on top of snow.

Do not apply more than two sequential applications of Abound for control of *Pythium* spp. For all other diseases, do not apply more than four sequential applications of Abound.

**Abound Rate Conversion Chart for Turf**

Fluid Ounces Product Per 1000 Sq. Ft.	Ounces A.I. Per 1000 Sq. Ft.	Fluid Ounces Product Per Acre	Pints of Product Per Acre
0.40	0.104	17.4	1.1
0.50	0.130	21.8	1.4
0.60	0.156	26.1	1.6
0.70	0.182	30.5	1.9
0.77	0.200	33.5	2.1
1.35	0.350	58.8	3.7

59/63

**Amount of Abound to Mix 100 Gallons for Turf Applications**

Abound Use Rate (fl. oz.)	Spray Volume (gallons/1000 square feet)		
	2.0 gals. (fl. oz.)	3.0 gals. (fl. oz.)	4.0 gals. (fl. oz.)
0.40	20.0	13.0	10.00
0.50	25.0	17.0	13.00
0.60	30.0	20.0	15.00
0.70	35.0	23.0	18.00
0.77	38.5	25.7	19.30
1.35	67.5	45.0	33.75

**SEED TREATMENT**

**General Information**

Abound is a broad spectrum, preventative fungicide with systemic and curative properties recommended for the control of many important plant diseases. Abound may be applied in alternating programs or in tank mixes with other registered, crop protection products. All applications should be made according to the use directions that follow. Abound may be applied as a seed treatment following the guidelines specified in the SEED TREATMENT TABLE section of this label.

**General Use Precautions**

Do not graze or feed clippings from treated turf areas to animals. Do not plant the following crops for a period of 12 months (unless an azoxystrobin product is registered for use on that crop): sorghum, buckwheat, millet, oats, rye, wild rice, non-grass animal feeds (alfalfa, clover), spices and sugarcane. Azoxystrobin is registered for use on all other rotated crops and all other crops may be planted immediately after the last treatment.

Federal law requires that bags of treated seeds shall be labeled with the following information. "This seed has been treated with azoxystrobin fungicide. Do not use for food, feed or oil purposes. Store away from food and feedstuffs." Use with an EPA-approved dye that imparts an unnatural color to the seed.

## **USE PRECAUTION**

When using formulations that do not contain dye, a dye used to color the treated seed must be an EPA approved dye. Refer to 40 CFR 153.155(c). All seed treated with an economic poison must be colored to distinguish and prevent subsequent inadvertent use as a food for man or feed for animals.

## **SEED TREATMENT USE INFORMATION**

Apply Abound at the recommended rate per 100 pounds of seed, using standard slurry or mist-type seed treatment equipment. Uniform application to seed is necessary to ensure seed safety and best disease protection. Seed should be sound and well cured prior to treatment. Product should be diluted with sufficient water to secure seed coverage. Consult a seed treatment specialist regarding slurry rates recommended for the crop to be treated with Abound.

It is recommended that Abound be combined with a Pythium-active seed treatment product to offer broad spectrum protection against the seed and seedling disease complex (*Rhizoctonia* spp. and *Pythium* spp.).

Crop	Target Diseases	Use Rate fl. oz. product/ cwt. seed	Remarks
Canola	Seedborne Blackleg ( <i>Phoma lingam</i> ) Seedling Rhizoctonia Damping-off ( <i>Rhizoctonia solani</i> ) Alternaria Seedling Blight ( <i>Alternaria</i> spp.)	1.5	
Cucurbits	Seedling Rhizoctonia Damping-off ( <i>Rhizoctonia solani</i> ) General seed decay fungi	0.25-1.5	
Peanut	Seedborne disease Rhizoctonia Damping-off ( <i>Rhizoctonia solani</i> )	0.25-1.5	Suppression only
Potato	Black Scurf & Stem Canker ( <i>Rhizoctonia solani</i> ) Silver Scurf ( <i>Helminthosporium solani</i> )	0.31-1.5	For suppression of black scurf and stem canker and for protection against silver scurf.
Sunflower	Downy mildew ( <i>Plasmopora halstedii</i> )	0.25-15.0	Apply Abound at the recommended rate using standard slurry or mist-type seed treatment equipment. Uniform application to seed is necessary to ensure seed safety and best disease protection.
Rice	Seedborne fungi and Early Season Sheath Blight ( <i>Rhizoctonia solani</i> )	0.25-1.5	For protection against seedborne fungi and early season sheath blight.
Tomato	Seed decay and Early Season Rhizoctonia damping-off ( <i>Rhizoctonia solani</i> )	0.25-1.5	For protection against seed decay and Early Season Rhizoctonia damping-off.
Wheat	Seedborne disease common bunt dwarf bunt	0.25-1.5	For protection against seedborne disease, common bunt and partial control of dwarf bunt.

61/63

Crop	Target Diseases	Use Rate fl. oz. product/ cwt. seed	Remarks
<b>Non-Crop Uses</b>			
Flower Tree Seed	Seedborne disease Rhizoctonia Damping-off ( <i>Rhizoctonia solani</i> )	0.25-1.5	For early season protection against seedborne disease and Rhizoctonia damping-off.
Ornamental Seed	Seedborne disease Rhizoctonia Damping-off ( <i>Rhizoctonia solani</i> )	0.25-1.5	For early season protection against seedborne disease and Rhizoctonia damping-off.
Turfgrass	Seedborne disease Rhizoctonia Damping-off ( <i>Rhizoctonia solani</i> )	0.25-1.5	For early season protection against seedborne disease and Rhizoctonia damping-off.

6/2/63

Abound<sup>®</sup>, AMBUSH<sup>®</sup>, Warrior<sup>®</sup> with Zeon<sup>™</sup> Technology, and the Syngenta logo are trademarks of a Syngenta Group Company

Acrobat<sup>®</sup> is a trademark of BASF Corporation

Aliette<sup>®</sup> and Phaser<sup>®</sup> are trademarks of Bayer CropScience

Botran<sup>®</sup> is a trademark of Gowan Company

Lorsban<sup>®</sup> and Kelthane<sup>®</sup> are trademarks of Dow AgroSciences LLC

Lannate<sup>®</sup> is a trademark of Du PONT Crop Protection

M-Pede<sup>®</sup> is a trademark of Mycogen Corporation

Pounce<sup>®</sup> is a trademark of FMC Corporation and Agrilience, LLC

Thiodan<sup>®</sup> is a trademark of Universal Crop Protection Alliance, LLC

©200\_ Syngenta

For non-emergency (e.g., current product information) call  
Syngenta Crop Protection at 1-800-334-9481.

Syngenta Crop Protection, Inc.  
Greensboro, North Carolina 27409  
[www.syngenta-us.com](http://www.syngenta-us.com)

SCP 1098A-M1X XXXX  
00100-1098.20050314c.PostCitrusLegumeFoliage.Abound.highl.doc  
00100-1098.20050314c.PostCitrusLegumeFoliage.Abound.highl.pdf