

PULL HERE TO OPEN ►

GROUP **11** FUNGICIDE



# Abound<sup>®</sup>

## Flowable Fungicide

syngenta<sup>®</sup>

Broad spectrum fungicide for control of plant diseases

*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 lb 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. 100-NE-001

**SCP 1098A-L1L 0216  
4063215**

**1 gallon**  
Net Contents



®

<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 skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. 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.

#### Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below.

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

*continued...*

## PRECAUTIONARY STATEMENTS (*continued*)

### Engineering Controls

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/PPE 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

Azoxystrobin is toxic to freshwater and estuarine/marine fish and aquatic invertebrates. Azoxystrobin can be persistent for several months or longer.

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

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 water adjacent to treated areas. Do not contaminate water when disposing of equipment washwater or rinsate.

### **Ground Water Advisory**

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

### **Surface Water Advisory**

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of azoxystrobin and a degradate of azoxystrobin from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

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 must 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, LLC or Seller. To the extent permitted by applicable law, 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. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and, (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, 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.**

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 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

## PRODUCT USE PRECAUTIONS

**FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR DISEASE CONTROL, AND/OR ILLEGAL RESIDUES.**

### 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.**

## PRODUCT INFORMATION

Abound is a broad spectrum, preventative fungicide with systemic and curative properties recommended for the control of many important plant diseases. Abound Flowable Fungicide is a member of Syngenta's Plant Performance™ product line and may also improve the yield and/or quality of the crop. These additional benefits are due to positive effects on plant physiology. The effects may vary according to factors such as the crop, crop hybrid, or environment. Abound may be applied as a foliar spray in alternating spray programs or in tank mixes with other registered crop protection products. All applications must be made according to the use directions that follow.

### Restrictions for Resistance Management Purposes

**Greenhouse Use:** To help manage fungicide resistance, do not use for commercial transplant production in the greenhouse except where specified on the label.

## PRODUCT USE INSTRUCTIONS

**Application:** Thorough coverage is necessary to provide good disease control. Make no more spray solution than is needed for application. Avoid spray overlap, as crop injury may occur.

**Adjuvants:** When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification is recommended.

**Efficacy:** Under certain conditions conducive to extended infection periods, use another registered fungicide for additional applications if maximum amount of Abound has been used. If resistant isolates to Group 11 fungicides are present, efficacy can be reduced for certain diseases. The higher rates in the rate range and/or shorter spray intervals may be required under conditions of heavy infection pressure, with highly susceptible varieties, or when environmental conditions are conducive to disease.

### 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. This should include selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and proper timing and placement of irrigation. Consult your local agricultural 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.

**Crop Tolerance:** Plant tolerance has been found to be acceptable for all crops on the label, however, not all possible tank-mix combinations have been tested under all conditions. When possible, it is recommended to test the combinations on a small portion of the crop to ensure that a phytotoxic response will not occur as a result of application. See Product Use Precautions for apple phytotoxicity information.

## RESISTANCE MANAGEMENT

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Abound (azoxystrobin) is a Group 11 fungicide. The mode of action for Abound is the inhibition of the QoI (quinone outside) site within the electron transport system [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 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.

If planned total number of fungicide applications per crop is:	1	2	3	4	5	6	7	8	9	10	11	12
Recommended Solo QoI fungicide sprays	1	1	2	2	2	2	2	3	3	3	3	4
Recommended QoI fungicide sprays in mixture (tank-mix or formulated)	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 must be no more than  $\frac{1}{3}$  (33%) of the total number of fungicide applications per season.
- For QoI mixes in programs in which tank mixes or premixes of QoI with mixing partners of a different mode of action are utilized, the number of QoI containing applications must be no more than  $\frac{1}{2}$  (50%) of the total number of fungicide applications per season.
- In programs in which applications of QoI are made with both solo products and mixtures, the number of QoI containing applications must be no more than  $\frac{1}{2}$  (50%) of the total number of fungicide applications 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.

### Rotational Crop Restrictions

The following crops may be planted at the specified interval following application of Abound fungicide.

#### Crop Rotational Interval

	Plant back interval
Buckwheat and millet	12 months
All other crops with Azoxystrobin registered uses	0 days

### SOILBORNE/SEEDLING DISEASE CONTROL

For those crops that have specific use directions for soilborne 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.

Under cool, wet conditions, crop injury from soil directed applications can occur.

### **BANDED**

- 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 ai)/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.

### **IN-FURROW**

- 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 seeds 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		Row Spacing (inches)										
fl oz product	oz ai	22	30	32	34	36	38	40	48	60	72	80
		Product per Acre (fl oz)										
0.40	0.10	9.5	7.0	6.5	6.1	5.8	5.5	5.2	4.4	3.5	2.9	2.6
0.60	0.15	14.3	10.5	9.8	9.2	8.7	8.3	7.8	6.5	5.2	4.4	3.9
0.80	0.20		13.9	13.1	12.3	11.6	11.0	10.5	8.7	7.0	5.8	5.2
1.00	0.25					14.5	13.8	13.1	10.9	8.7	7.3	6.5
1.20	0.30								13.1	10.5	8.7	7.8
1.38	0.36								15.0	12.0	10.0	9.0
1.50	0.40									13.1	10.9	9.8
1.72	0.45									15.0	12.5	11.2
2.00	0.50										14.5	13.1
2.07	0.54										15.0	13.5
2.30	0.60											15.0

Do not apply more than 15 fl oz/A.

Row spacing (inches)	Row-Feet Per Acre
22	23,760
30	17,424
32	16,335
34	15,374
36	14,520
38	13,756
40	13,068
48	10,890
60	8,712
72	7,260
80	6,534

## **DRIP**

Refer to the **Application Instructions Through Irrigation System** section.

## **SPRAY DRIFT MANAGEMENT**

To avoid spray drift, do not apply when conditions favor drift beyond the target area. The interaction of many equipment and weather related factors determine the potential for spray drift. **AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.**

### **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.

## **MIXING AND APPLICATION METHODS**

### **Spray Equipment**

Abound may be applied with all types of spray equipment commonly used for making ground and aerial applications. Proper adjustments and calibration of spraying equipment to give good canopy penetration and coverage is essential for good disease control.

### **Nozzles**

- Equip sprayers with nozzles that provide accurate and uniform application.
- Nozzles should be the same size and uniformly spaced across the boom.
- Calibrate sprayer before use.
- It is suggested that screens be used to protect the pump and to prevent nozzles from clogging.
- Screens placed on the suction side of the pump should be *16-mesh or coarser*.
- Do not place a screen in the recirculation line.
- Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles.
- Check nozzle manufacturer's recommendations.

### **Pump**

- Use a pump with capacity to:
  - (1) Maintain 35-40 psi at nozzles.
  - (2) Provide sufficient agitation in tank to keep mixture in suspension - this requires recirculation of 10% of tank volume per minute.
- Use a jet agitator or liquid sparge tube for agitation.
- Do not air sparge.

For more information on spray equipment and calibration, consult sprayer manufacturers and state recommendations. For specific local directions and spray schedules, consult the current state agricultural recommendations.

### **Mixing Instructions**

- Abound is a suspension concentrate (SC) formulation.
- Prepare no more spray mixture than is required for the immediate operation.
- Thoroughly clean spray equipment before using this product.
- Agitate the spray solution before and during application.
- Rinse spray tank thoroughly with clean water after each day's use and dispose of pesticide rinsate by application to an already treated area.

### **Abound Alone (No Tank Mix)**

- Add  $1/2$ - $2/3$  of the required amount of water to the spray or mixing tank.
- With the agitator running, add Abound to the tank.
- Continue agitation while adding the remainder of the water.
- Begin application of the spray solution after Abound has completely dispersed into the mix water.
- Maintain agitation until all of the mixture has been sprayed.

**Abound + Tank Mixtures:** Abound is usually compatible with all tank-mix partners listed on this label. To determine the physical compatibility of Abound with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to 1 qt of water. Add wettable powders and water dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

Abound has demonstrated some phytotoxic effects when mixed with products that are formulated as emulsifiable concentrates (EC). 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.

### **Mixing in the Spray Tank**

- Add  $1/2$ - $2/3$  of the required amount of water to the spray or mixing tank.
- With the agitator running, add the tank-mix partner(s) into the tank in the same order as described above.
- Allow the material to completely dissolve and disperse into the mix water. Continue agitation while adding the remainder of the water and Abound to the spray tank.
- Allow Abound to completely disperse.
- Spray the mixture with the agitator running.

## APPLICATION INSTRUCTIONS THROUGH IRRIGATION SYSTEMS (CHEMIGATION)

### Application Through Irrigation Systems (Chemigation)

- Use only on crops for which chemigation is specified on this label.
- Apply this product only through center pivot, solid set, hand move, or moving wheel irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- Apply in 0.1-0.25 inches/acre. Excessive water may reduce efficacy.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

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

**Drip Irrigation:** Abound may be applied through drip irrigation systems for soilborne 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  $\frac{1}{2}$  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.

### **Operating Instructions**

1. Do not apply when wind speed favors drift beyond the area intended for treatment.
2. 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.
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 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.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. 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.
7. 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.
8. 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.
9. 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.



### **Center Pivot Irrigation Equipment**

**Notes:** (1) Use only with drive systems which provide uniform water distribution. (2) Do not use end guns when chemigating Abound through center pivot systems because of non-uniform application.

- Determine the size of the area to be treated.
- Determine the time required to apply  $1/8$ - $1/2$  inch of water over the area to be treated when the system and injection equipment are operated at normal pressures as specified by the equipment manufacturer. When applying Abound through irrigation equipment use the lowest obtainable water volume while maintaining uniform distribution. Run the system at 80-95% of the manufacturer's rated capacity.
- Using water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Abound required to treat the area covered by the irrigation system.
- Add the required amount of Abound and sufficient water to meet the injection time requirements to the solution tank.
- Make sure the system is fully charged with water before starting injection of the Abound solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
- Maintain constant solution tank agitation during the injection period.
- Continue to operate the system until the Abound solution has cleared the sprinkler head.

### **Solid Set, Hand Move, and Moving Wheel Irrigation Equipment**

- Determine the acreage covered by the sprinklers.
- Fill injector solution tank with water and adjust flow rate to use the contents over a 20 to 30-minute interval. When applying Abound through irrigation equipment use the lowest obtainable water volume while maintaining uniform distribution.
- Determine the amount of Abound required to treat the area covered by the irrigation system.
- Add the required amount of Abound into the same quantity of water used to calibrate the injection period.
- Operate the system at the same pressure and time interval established during the calibration.
- Stop injection equipment after treatment is completed. Continue to operate the system until the Abound solution has cleared the last sprinkler head.

### **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.

## Directions For Use

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/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> ) Shot Hole ( <i>Wilsonomyces carpophilus</i> )	12.0-15.5 (0.20-0.25)	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 or chemigation. For aerial applications apply in a minimum of 15 GPA. Thorough and uniform coverage is essential for disease control. Reduced efficacy has been observed when uniform coverage cannot be obtained.  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 specified rates.
	Brown Rot Blossom Blight ( <i>Monilinia laxa</i> , <i>M. fructicola</i> )	12.0-15.5 (0.20-0.25)	Anthracnose, scab and shot hole: Begin applications prior to disease development and continue at 7- to 14-day intervals throughout the season.  Blossom blight: Begin applications at early bloom and continue through petal fall.  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.

### Specific Use Restrictions:

- 1) Do not apply more than 92.3 fl oz of product/A/season.
- 2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products.
- 3) Do not apply within 28 days of harvest (28-day PHI).

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
Bananas Plantains	Black Sigatoka ( <i>Mycosphaerella fijiensis</i> ) Yellow Sigatoka ( <i>Mycosphaerella musicola</i> )	5.5-8.5 (0.09-0.135)	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 specified rates.  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.

**Specific Use Restrictions:**

- 1) Do not apply more than 66.4 fl oz of product/A/season.
- 2) Do not apply more than 1.08 lb ai/A/season of azoxystrobin-containing products.
- 3) Abound may be applied the day of harvest (0-day PHI).

<b>Berries, Bushberry Subgroup 13-07B</b>  Aronia Berry Blueberry, Highbush Blueberry, Lowbush Buffalo Currant Chilean Guava Cranberry, Highbush Currant, Black Currant, Red Elderberry	Alternaria Fruit Rot ( <i>Alternaria</i> spp.) Anthracnose Fruit Rot ( <i>Colletotrichum gloeosporoides</i> ) Botryosphaeria Canker ( <i>Botryosphaeria</i> spp.) Leaf Spot and Blotch ( <i>Mycosphaerella</i> spp., <i>Septoria</i> spp.) Mummyberry ( <i>Monilinia vaccinii-corymbosi</i> ) Phomopsis Leaf Spot, Twig Blight and Stem Canker ( <i>Phomopsis vaccinii</i> ) Powdery Mildew ( <i>Sphaerotheca</i> spp.) Septoria Blight ( <i>Septoria</i> spp.) Spur Blight ( <i>Didymella</i> spp., <i>Phoma</i> spp.)	6.0-15.5 (0.10-0.25)	Abound applications should begin prior to disease development and continue throughout the season on a 7- to 14-day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at specified rates.  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.
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Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<b>Berries, Bushberry Subgroup 13-07B (continued)</b> European Barberry Gooseberry Honeysuckle, Edible Huckleberry Jostaberry Juneberry (Saskatoon Berry) Lingonberry Native Currant Salal Sea Buckthorn Including all cultivars and/or hybrids of these	Alternaria Fruit Rot ( <i>Alternaria</i> spp.) Anthracnose Fruit Rot ( <i>Colletotrichum gloeosporoides</i> ) Botryosphaeria Canker ( <i>Botryosphaeria</i> spp.) Leaf Spot and Blotch ( <i>Mycosphaerella</i> spp., <i>Septoria</i> spp.) Mummyberry ( <i>Monilinia vaccinii-corymbosi</i> ) Phomopsis Leaf Spot, Twig Blight and Stem Canker ( <i>Phomopsis vaccinii</i> ) Powdery Mildew ( <i>Sphaerotheca</i> spp.) Septoria Blight ( <i>Septoria</i> spp.) Spur Blight ( <i>Didymella</i> spp., <i>Phoma</i> spp.)	6.0-15.5 (0.10-0.25)	Abound applications should begin prior to disease development and continue throughout the season on a 7- to 14-day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at specified rates.  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>Specific Use Restrictions:</b> 1) Do not apply more than 46 fl oz of product/A/season. 2) Do not apply more than 0.75 lb ai/A/season of azoxystrobin-containing products. 3) Abound may be applied the day of harvest (0-day PHI).			

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<b>Berries, Caneberry Subgroup 13-07A</b>  Blackberry Bingleberry Boysenberry Dewberry Lowberry Marionberry Olallieberry Youngberry Loganberry Red and Black Raspberry Wild Raspberry  Including all cultivars and/or hybrids of these	Anthracnose <i>(Spaceloma necator)</i> <i>(Elsinoe veneta)</i> Botryosphaeria Canker <i>(Botryosphaeria dothidea)</i> Colletotrichum Rot <i>(Colletotrichum gloeosporioides)</i> Leaf Spot and Blotch <i>(Mycosphaerella spp.)</i> <i>(Septoria rubi)</i> <i>(Sphaerulina rubi)</i> Powdery Mildew <i>(Sphaerotheca macularis)</i> <i>(Microphaera spp.)</i> <i>(Oidium spp.)</i> Rosette or Double Blossom of Blackberries <i>(Cercospora rubi)</i> Spur Blight <i>(Didymella applanata)</i>	6.0-15.5 (0.10-0.25)	Begin applications at onset of disease and continue as required until harvest. Make applications on a 7- to 14-day schedule. Use a minimum water volume of 10 gallons per acre by ground and a minimum of 3 gallons by air.  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.
	Blackberry Rust <i>(Phragmidium spp.)</i>	10-15.5 (0.16-0.25)	
<b>Specific Use Restrictions:</b> 1) Do not apply more than 92.3 fl oz of product/A/season. 2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products. 3) Abound may be applied the day of harvest (0-day PHI).			

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<b>Berries, Low Growing Subgroup 13-07G (except Cranberry)</b>  <b>Strawberry</b>  See additional crops below.	Anthracnose ( <i>Colletotrichum fragariae</i> ) Leather Rot ( <i>Phytophthora cactorum</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>Abound applications should begin prior to disease development and continue throughout the season on a 7- to 10-day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at specified rates.</p> <p>For leather rot control apply 2 applications on a 7-day schedule from late bloom through harvest.</p> <p><b>Field Nurseries:</b> Apply to young plants in field nurseries by ground, drip, or overhead chemigation.</p> <p>If applying through drip irrigation, calculate the rate as a band application with a band width equal to the root zone width. Inject Abound into the irrigation water.</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 gallons 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> <p>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>
	<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 the <b>SOILBORNE/ SEEDLING DISEASE CONTROL</b> section.
<p><b>Additional Low Growing Berries:</b> Bearberry, Bilberry, Cloudberry, Muntries, Partridgeberry including all cultivars and/or hybrids of these.</p>			
<p><b>Specific Use Restrictions:</b></p> <ol style="list-style-type: none"> <li>1) Do not apply more than 61.5 fl oz of product/A/season.</li> <li>2) Do not apply more than 1.0 lb ai/A/season of azoxystrobin-containing products.</li> <li>3) Abound may be applied the day of harvest (0-day PHI).</li> </ol>			

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<b>Berries, Low Growing Subgroup 13-07H (except Strawberry)</b>  <b>Cranberry</b>  See additional crops below.	Cottonball <i>(Monilinia oxycocci)</i> Fruit Rots <i>(Phylospora vaccinii)</i> <i>(Glomerella cingulata)</i> <i>(Coleophoma empetri)</i> Lophodermium Twig Blight <i>(Lophodermium spp.)</i>	6.0-15.5 (0.10-0.25)	Begin applications at 5-10% bloom for fruit rot, cottonball, and twig blight. Continue applications on a 7- to 14-day schedule if conditions are favorable for disease development. Applications may be made by ground, chemigation or air.  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.
	Fairy Ring (suppression) <i>(Psilocybe spp.)</i>	15.5 (0.25)	Make the first application at bud break. Measure the ring diameter and add 10 feet to that diameter. Apply Abound at a rate equivalent to 15.5 fl oz/A in 30 – 100 gallons of water to the affected area. Irrigation (1 – 2 hours) following application is advisable to ensure penetration to the base of the plant. If necessary make another application 2 – 4 weeks later. For ground application ensure adequate water volume for thorough canopy penetration.

**Additional Low Growing Berries:** Bearberry; Bilberry; Blueberry, lowbush; Cloudberry; Lingonberry; Muntries; and Partridgeberry including all cultivars and/or hybrids of these

**Specific Use Restrictions:**

- 1) Do not apply more than 92.3 fl oz of product/A/season.
- 2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products.
- 3) Do not treat cranberry fields used for aquaculture of fish and crustacea.
- 4) 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.
- 5) Do not apply to flooded crop.
- 6) Do not allow release of irrigation or flood water to non-target aquatic habitat for at least 14 days after the last application.
- 7) Do not apply within 3 days of harvest (3-day PHI).



Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<p><b>Citrus Fruit Crop Group 10-10</b></p> <p>Calamondin Citron Grapefruit Kumquat Lemon Lime Mandarin Orange (sour and sweet) Pummelo Satsuma Mandarin Tangerine Uniq fruit</p> <p>Including all cultivars and/or hybrids of these</p> <p>See complete list of citrus fruit crops below.</p>	<p>Albinism (<i>Alternaria alternata</i> <i>pv citri</i>) Alternaria Leaf and Fruit Spot (<i>Alternaria citri</i>) Anthracnose (<i>Colletotrichum</i> <i>acutatum</i>, <i>C. gloeosporioides</i>) Cercospora Leaf Spot (<i>Cercospora</i> spp.) Diplodia Stem-End Rot (<i>Diplodia natalensis</i>) Greasy Spot (<i>Mycosphaerella citri</i>) Melanose (<i>Diaporthe citri</i>) Penicillium Decays Green Mold, Whisker Mold, Suppression of Blue Mold (<i>Penicillium</i> spp.) Phomopsis Stem-End Rot (<i>Phomopsis citrii</i>) Post Bloom Fruit Drop (PFD) (<i>Colletotrichum</i> <i>acutatum</i>) Powdery Mildew (<i>Erysiphe</i> spp.) Scab (<i>Elsinoe fawcettii</i>) Sweet Orange Scab (<i>Elsinoe australis</i>)</p>	<p>12.0-15.5 (0.20-0.25)</p>	<p>Abound applications should begin prior to disease development and continue throughout the season on 7- to 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 specified rates. A horticultural spray oil should be used to improve control of greasy spot.</p> <p>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>Black Spot (<i>Guidnardia</i> <i>citricarpa</i>)</p>	<p>9.0-15.5 (0.15-0.25)</p>	

**Complete List of Citrus Fruit Crops:** Australian Desert Lime (*Eremocitrus glauca*); Australian Finger Lime (*Microcitrus australasica*); Australian Round Lime (*Microcitrus australis*); Brown River Finger Lime (*Microcitrus papuana*); Calamondin (*Citrofortunella microcarpa*); Citron (*Citrus medica*); Citrus Hybrids, *Citrus* spp., *Eremocitrus* spp., *Fortunella* spp., *Microcitrus* spp., and *Poncirus* spp.; Grapefruit (*Citrus paradise*); Japanese Summer Grapefruit (*Citrus natsudaidai*); Kumquat (*Fortunella* spp.); Lemon (*Citrus limon*); Lime (*Citrus aurantiifolia*); Mediterranean Mandarin (*Citrus deliciosa*); Mount White Lime (*Microcitrus garrowayae*); New Guinea Wild Lime (*Microcitrus warburgiana*); Orange, Sour (*Citrus aurantium*); Orange, Sweet (*Citrus sinensis*); Pummelo (*Citrus maxima*); Russell River Lime (*Microcitrus inodora*); Satsuma Mandarin (*Citrus unshiu*); Sweet Lime (*Citrus limetta*); Tachibana Orange (*Citrus tachibana*); Tahiti Lime (*Citrus latifolia*); Tangelo (*Citrus x tangelo*); Tangerine (Mandarin) (*Citrus reticulata*); Tangor (*Citrus nobilis*); Trifoliolate Orange (*Poncirus trifoliata*); Uniq Fruit (*Citrus aurantium* Tangelo group); cultivars, varieties and/or hybrids of these.

**Specific Use Restrictions:**

- 1) Do not apply more than 92.3 fl oz of product/A/season.
- 2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products.
- 3) Do not use Abound in citrus plant propagation nurseries.
- 4) Abound may be applied the day of harvest (0-day PHI).

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<p><b>Grapes and Other Small Fruit Vine Climbing Subgroup 13-07F (except fuzzy kiwifruit)</b></p> <p>Amur River Grape Kiwifruit, Hardy Maypop Muscadines Schisandra Berry</p> <p>Including all cultivars and/or hybrids of these</p>	<p>Black Rot (<i>Guignardia bidwellii</i>) Downy Mildew (<i>Plasmopara viticola</i>) Phomopsis Cane and Leaf Spot (<i>Phomopsis viticola</i>) Powdery Mildew (<i>Uncinula necator</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>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 specified rates.</p> <p>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>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 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></p> <ol style="list-style-type: none"> <li>1) Do not apply more than 92.3 fl oz of product/A/season.</li> <li>2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products.</li> <li>3) Do not apply within 14 days of harvest (14-day PHI).</li> </ol>			

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
Grasses (grown for seed)	Ergot Stem Diseases Powdery Mildew ( <i>Erysiphe graminis</i> ) Rust ( <i>Puccinia</i> spp.)	6.0-15.5 (0.10-0.25)	<p>Abound applications should begin prior to disease development and continue throughout the season on a 10- to 14-day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at specified rates.</p> <p>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>

**Specific Use Restrictions:**

- 1) Do not apply more than 49 fl oz of product/A/season.
- 2) Do not apply more than 0.8 lb ai/A/season of azoxystrobin-containing products.
- 3) Do not feed treated straw, seed, or screenings to livestock.
- 4) Abound may be applied up to 8 days prior to harvest (swathing) (8-day PHI).

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
Peanuts	<b>Soilborne Diseases – early season (in-furrow application)</b> Aspergillus Crown Rot ( <i>Aspergillus niger</i> ) Pythium Damping Off ( <i>Pythium</i> spp.) Stem Rot/White Mold Suppression ( <i>Sclerotium rolfsii</i> )	0.40-0.80 fl oz/1000 row feet	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>PRODUCT INFORMATION</b> section.
	<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> Cylindrocladium Black Rot ( <i>Cylindrocladium crotalariae</i> ) Pythium Pod Rot ( <i>Pythium myriotylum</i> )	12.0-24.5 (0.20-0.40)	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 soilborne diseases and will also provide control of the foliar diseases listed for a 10- to 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 fl oz/A. For light disease pressure and dry environmental conditions (non-irrigated, low rainfall), use 12.0-24.5 fl 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 specified rates.

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
Peanuts (continued)	<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- to 14-day interval.  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>Specific Use Restrictions:</b> 1) Do not apply more than 49 fl oz of product/A/season. 2) Do not apply more than 0.8 lb ai/A/season of azoxystrobin-containing products. 3) Do not apply within 14 days of harvest (14-day PHI).			
Pistachios	Alternaria Late Blight <i>(Alternaria alternata)</i> Botryosphaeria Panicle and Shoot Blight <i>(Botryosphaeria dothidea)</i> Septoria Leaf Spot <i>(Septoria pistaciarum)</i>	12.0-15.5 (0.20-0.25)	Abound applications should begin prior to disease development and continue throughout the season on 7- to 21-day intervals following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at specified rates.  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>Specific Use Restrictions:</b> 1) Do not apply more than 92.3 fl oz of product/A/season. 2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products. 3) Do not apply within 7 days of harvest (7-day PHI).			

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
Stone Fruits, Crop Group 12-12  Apricot Cherry, Sweet Cherry, Tart Nectarine Peach Plum Plumcot Prune	Brown Rot Blossom Blight and Fruit Rot ( <i>Monilinia fructicola</i> , <i>M. laxa</i> )	12.0-15.5 (0.20-0.25)	For brown rot blossom blight, begin applications at early bloom and continue through petal fall. For brown rot on fruit, Abound may be applied to fruit up to the day of harvest.
	Scab ( <i>Cladosporium carpophilum</i> ) Alternaria Spot and Fruit Rot ( <i>Alternaria alternata</i> ) Anthracnose ( <i>Colletotrichum prunicola</i> , <i>C. gloeosporioides</i> ) Leaf Rust ( <i>Tranzschelia discolor</i> ) Powdery Mildew ( <i>Sphaerotheca pannosa</i> , <i>Podosphaera clandestina</i> ) Shot Hole ( <i>Wilsonomyces carpophilus</i> )	12.0-15.5 (0.20-0.25)	For scab, begin applications at petal fall and continue at 7- to 14-day intervals.  For all other diseases, begin application at the onset of dis- ease as a protectant fungicide and continue on a 7- to 14-day schedule.  For peaches only, 9.0-15.5 fl oz of Abound may be used for scab control.  Applications may be made by ground, air or chemigation.  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.

**Complete List of Stone Fruit Crops:** Apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; cherry, sweet; cherry, tart; Jujube, Chinese; nectarine; peach; plum; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plum, prune; plumcot; sloe; cultivars, varieties, and/or hybrids of these.

**Specific Use Restrictions:**

- 1) Do not apply more than 92.3 fl oz of product/A/season.
- 2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products.
- 3) Abound may be applied the day of harvest (0-day PHI).

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
Ti Palm, Leaves and Roots	<b>Foliar Diseases</b> Alternaria Leaf Spot <i>(Alternaria spp., A. alternata)</i> Ascochyta Leaf Spot <i>(Ascochyta cynarae)</i> Phyllostica Leaf Spot <i>(Phyllostica spp.)</i> Rust <i>(Uromyces betae, Puccinia helianthi)</i> White Rust <i>(Albugo tragopogonis)</i>	6.0-20.0 (0.10-0.33)	For powdery mildew, make preventative applications on a 5- to 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 specified 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)	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 apply more than six applications of Abound per year for <i>Phyllostica</i> spp.  Do not apply more than eight applications of Abound per year for <i>Cercospora</i> spp.
	<b>Soilborne Diseases</b> Circular Spot, Southern Blight <i>(Sclerotium rolfsii)</i> Pythium Root Rot <i>(Pythium aphanidermatum)</i> Rhizoctonia Stem Canker, Crown Rot <i>(Rhizoctonia solani)</i>	0.40-0.80 fl oz/ 1000 row feet	For soilborne/seedling disease control, see directions and rates under the <b>SOILBORNE/SEEDLING DISEASE CONTROL</b> section.

**Specific Use Restrictions:**

- 1) Do not apply more than 123 fl oz of product/A/season.
- 2) Do not apply more than 2.0 lb ai/A/season of azoxystrobin-containing products.
- 3) Apply as an in-furrow spray in a minimum of 10 gallons per acre.
- 4) Abound may be applied the day of harvest (0-day PHI).



Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<b>Tree Nuts, Crop Group 14-12 (except Pistachios)</b> Beechnut Brazil Nut Butternut Cashew Chestnut Chinquapin Filbert (hazelnut) Hickory Macadamia Pecan Walnut  Almonds, Pistachios (see specific use instructions)	Alternaria Leaf and Fruit Spot ( <i>Alternaria alternata</i> ) Anthracnose ( <i>Colletotrichum            acutatum,            Glomerella cingulata</i> ) Eastern Filbert Blight ( <i>Anisogramma            anomale</i> ) Late Blight ( <i>Alternaria alternata</i> ) Scab ( <i>Cladosporium            carpophilum</i> ) Septoria Leaf Spot ( <i>Septoria pistaciarum</i> ) Shot Hole ( <i>Wilsonomyces            carpophilus</i> )  Blossom Blight ( <i>Monilinia laxa,            M. fructicola</i> )	12.0 (0.20)	Abound applications should begin prior to disease develop- ment and continue throughout the season following the resis- tance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at specified rates.  Begin applications prior to disease development and con- tinue at 7- to 21-day intervals throughout the season.  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 blossom blight, begin applications at early bloom and continue through petal fall.

**Complete List of Tree Nut Crops:** African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English; yellowhorn; cultivars, varieties, and/or hybrids of these.

**Specific Use Restrictions:**

- 1) Do not apply more than 73.8 fl oz of product/A/season.
- 2) Do not apply more than 1.2 lb ai/A/season of azoxystrobin-containing products.
- 3) Do not apply within 45 days of harvest (45-day PHI).

Crop	Target Diseases	Use Rate fl oz product/A (lb ai/A)	Remarks
<b>Tropical Fruit</b> Acerola Atemoya Avocado Biriba Canistel Cherimoya Custard Apple Dragon Fruit 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.) Cercospora Leaf Spot ( <i>Cercospora</i> spp.) Powdery Mildew ( <i>Erysiphe</i> spp.) Rust ( <i>Puccinia</i> spp.)	6.0-15.5 (0.10-0.25)	Abound applications should begin prior to disease development and continue throughout the season on a 10- to 14-day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at specified rates.  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</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 the <b>SOILBORNE/SEEDLING DISEASE CONTROL</b> section.

**Specific Use Restrictions:**

- 1) Do not apply more than 92.3 fl oz of product/A/season.
- 2) Do not apply more than 1.5 lb ai/A/season of azoxystrobin-containing products.
- 3) Abound may be applied the day of harvest (0-day PHI).

### Abound Rate Conversion Chart

Fluid Ounces Product/A	Lb ai/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
6.2	0.10	21.3
7.0	0.11	18.3
8.5	0.14	15.4
9.0	0.15	14.2
9.2	0.15	14.2
10.0	0.16	13.0
11.0	0.18	11.6
12.0	0.20	10.4
12.3	0.20	10.4
13.0	0.21	9.8
14.0	0.23	9.1
15.4	0.25	8.3
15.5	0.25	8.3
18.3	0.30	6.9
18.5	0.30	6.9
20.0	0.33	6.4
20.3	0.33	6.4
24.5	0.40	5.2

## POST HARVEST APPLICATIONS

Crop	Target Diseases	Use Rate	Remarks								
Bananas Plantains	Crown Rot/Crown Mold ( <i>Colletotrichum musae</i> , <i>Fusarium pallidoroseum</i> , <i>Acremonium</i> spp., <i>Ceratocystis paradoxa</i> , <i>Glomerella cingulata</i> , <i>Penicillium</i> spp.)	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"> <thead> <tr> <th>Abound Use Rate</th> <th>100.0 gal Spray Solution</th> </tr> </thead> <tbody> <tr> <td>200 ppm</td> <td>11 fl oz</td> </tr> <tr> <td>300 ppm</td> <td>15 fl oz</td> </tr> <tr> <td>400 ppm</td> <td>21 fl oz</td> </tr> </tbody> </table>	Abound Use Rate	100.0 gal Spray Solution	200 ppm	11 fl oz	300 ppm	15 fl oz	400 ppm	21 fl oz
			Abound Use Rate	100.0 gal Spray Solution							
200 ppm	11 fl oz										
300 ppm	15 fl oz										
400 ppm	21 fl oz										
<p><b>Specific Use Restrictions:</b></p> <ol style="list-style-type: none"> <li>1) Do not make more than one application to bananas as post-harvest treatment.</li> <li>2) Abound may be degraded by exposure to direct sunlight. Do not store treated fruit in direct sunlight.</li> </ol>											

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

### **Pesticide Storage**

Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to 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 Handling [less than or equal to 5 gallons]**



Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

### **Container Handling [greater than 5 gallons]**

Refillable container. Refill this container with pesticide only. Do not reuse the container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

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

Abound®, Plant Performance™, the ALLIANCE FRAME   
the SYNGENTA Logo and the PURPOSE ICON   
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For non-emergency (e.g., current product information) call  
Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:  
Syngenta Crop Protection, LLC  
P.O. Box 18300  
Greensboro, North Carolina 27419-8300

**SCP 1098A-L1L 0216  
4063215**

GROUP 11 FUNGICIDE



## Flowable Fungicide

Broad spectrum fungicide for control of plant diseases

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 lb of active ingredient per gallon \*IUPAC

See additional precautionary statements and directions for use inside booklet.

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

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

EPA Reg. No. 100-1098

EPA Est. 100-NE-001

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Manufactured for:  
Syngenta Crop Protection, LLC  
P.O. Box 18300  
Greensboro, North Carolina 27419-8300

SCP 1098A-L1L 0216  
4063215

1 gallon Net Contents

KEEP OUT OF REACH OF CHILDREN.

## CAUTION

### FIRST AID

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment. **HOTLINE NUMBER:** For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372.

### PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

#### CAUTION

Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. 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.

**Environmental Hazards:** Azoxystrobin is toxic to freshwater and estuarine/marine fish and aquatic invertebrates. Azoxystrobin can be persistent for several months or longer.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or regional office of the EPA. 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 water adjacent to treated areas. Do not contaminate water when disposing of equipment washwater or rinsate.

**Ground Water Advisory:** Azoxystrobin and a degradate of azoxystrobin are known to leach through soil to ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

**Surface Water Advisory:** This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils

and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of azoxystrobin and a degradate of azoxystrobin from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

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

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label.

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**Container Handling [less than or equal to 5 gallons]:** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. **CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.**

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