

# Bumper<sup>®</sup> 41.8 EC

## (PROPICONAZOLE) FUNGICIDE

**ACTIVE INGREDIENT:** % BY WT.

Propiconazole:1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]Methyl]-1h-1,2,4-triazole . . . . . 41.8%

**OTHER INGREDIENTS:** . . . . . 58.2%

**TOTAL** . . . . . 100.0%

Contains petroleum distillates.

Bumper 41.8 EC contains 3.6 lbs. of active ingredient per gallon.

EPA Reg. No. 66222-42

EPA Est. No. 37429-GA-001<sup>BT</sup>; 37429-GA-002<sup>BO</sup>;

37429-GA-003<sup>BV</sup>

Letter(s) in lot number correspond(s) to superscript in EPA Est. No.

### KEEP OUT OF REACH OF CHILDREN WARNING—AVISO

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

For additional Precautionary Statements, handling, Directions for Use and Storage and Disposal, see inside of this booklet.

In case of spills, fire, leaks or accidents call 1-800-535-5053.

**How can we help? 1-866-406-6262**

GROUP 3 FUNGICIDE



FUNGICIDE

ADAMA  
ESSENTIALS

<b>FIRST AID</b>	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>● Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>● Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>● Call a poison control center or doctor for treatment advice.</li> </ul>
<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 to 20 minutes.</li> <li>● Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>● Immediately call a poison control center or doctor.</li> <li>● Do not give any liquid to the person.</li> <li>● Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>● Do not give anything to an unconscious person.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>● Move person to fresh air.</li> <li>● If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>● Call a poison control center or doctor for further treatment advice.</li> </ul>
<p><b>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-250-9291 for emergency medical treatment information.</b></p> <p><b>NOTE TO PHYSICIAN:</b> There is no specific antidote for this product. Induce emesis or lavage stomach, taking care to avoid aspiration of stomach contents into lungs. Contains petroleum distillate-vomiting may cause aspiration pneumonia.</p>	

In case of spills, fire, leaks or accidents call 1-800-535-5053.

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
WARNING-AVISO**

Causes substantial but temporary eye injury. Do not get in eyes or on clothing or skin. Harmful if swallowed. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. 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.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**All handlers must wear:**

- Protective eyewear (goggles or face shield)
- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or Viton
- Shoes plus socks

**All handlers using propiconazole as a seed piece treatment must wear:**

- Chemical-resistant gloves and
- A chemical resistant apron

**USER SAFETY REQUIREMENTS**

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow 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.

**ENGINEERING CONTROLS STATEMENT**

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

#### USER SAFETY RECOMMENDATIONS

##### Users should:

- 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

This pesticide is toxic to fish and shrimp. Do not apply directly to water, or to areas where surface water is present, or to inter-tidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

#### PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame.

### DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of **12 hours**.

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:

- Protective eyewear (goggles or face shield)
- Coveralls
- Chemical-resistant gloves, such as barrier laminate or Viton
- Shoes plus socks

#### PRODUCT INFORMATION

Bumper® 41.8 EC is a broad spectrum fungicide for the control of specified diseases in labeled crops.

**Restriction:** Do not use this product in greenhouses or as a tree injection.

Note: When an adjuvant is to be used with this product, ADAMA suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

#### SPRAY EQUIPMENT

In general, the most effective disease control is achieved when applications are made using sufficient water volume to provide thorough and uniform coverage. A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature relative humidity) and method of application can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Wind Speed: Do not apply at wind speeds greater than 15 mph.

Droplet Size: Apply as a medium or coarser spray (ASAE Standard 572).

Temperature Inversions: If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature or stable atmospheric conditions.

Other State and Local Requirements: Applicators must follow all state and local pesticide drift requirements regarding application of propiconazole. Where states have more stringent regulations, they must be observed.

Equipment: All application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Additional requirements for aerial applications:

1. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
2. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
3. When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

To avoid spray drift, do not apply when conditions favor drift beyond the target area.

**Precaution:** Do not allow spray overlap as crop injury may occur.

Air-assisted or air-blast sprayers use a forced air stream to move spray droplets into the canopy. Set up the fan to deliver only enough air volume to penetrate the canopy and provide good coverage. Adjust deflectors or other aiming devices to direct spray only to the target area.

Equip sprayers with nozzles that provide accurate and uniform application. Be certain that nozzles are the same size and uniformly spaced across the boom. Calibrate sprayer before use.

Use a pump with capacity to maintain 35-40 psi at nozzles and provide sufficient agitation in tank to keep mixture in suspension. Use a jet agitator, liquid sparger tube, or mechanical paddle for agitation. Do not air sparge.

Although Bumper 41.8 EC is an emulsifiable concentrate, it is suggested that screens be used to protect the pump and to prevent nozzles from clogging. Screens placed on suction side of 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.

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 experiment station recommendations.

#### APPLICATION INSTRUCTIONS

Bumper 41.8 EC is most effective when applied and allowed to dry before a rainfall. Avoid application under conditions when uniform coverage cannot be obtained or when excessive spray drift may occur.

**Restriction:** Do not apply directly to humans or animals.

**Aerial Application:** For those crops other than tree crops where aerial applications are indicated, apply in a minimum of 2 gals of water per acre, unless specified otherwise in the **APPLICATION INSTRUCTIONS** section of this label. For tree crops, use the higher volume on large trees, using a minimum of 5 to 10 gals of water per acre unless specified otherwise in the **APPLICATION INSTRUCTIONS** section of this label.

**Ground Application:** For tree crops, use a minimum of 50 gals of water per acre unless specified otherwise in the **APPLICATION INSTRUCTIONS** section of this label. For all other crops, apply Bumper 41.8 EC by ground equipment in a minimum of 10 gals of water per acre unless specified otherwise in the **APPLICATION INSTRUCTIONS** section of this label.

**Chemigation:** Apply Bumper 41.8 EC through irrigation equipment only to crops for which chemigation is specified on this label. Apply in 0.1 to 0.25 inches of water. Chemigation with excessive water may negatively impact efficacy of the product.

**Note:** Do not inject Bumper 41.8 EC at full strength or deterioration of valves and seals may occur. Use a dilution ratio of at least 10 parts water to 1 part Bumper 41.8 EC. Bumper 41.8 EC is corrosive to many seal materials. Leather seals are best. EPDM or silicone rubber seals can be used but should be replaced once a year. Do not use Viton, Buna-N, Neoprene, or PVC seals.

Bumper 41.8 EC, alone or in combination with other pesticides which are registered for application through irrigation systems, may be applied through irrigation systems.

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. 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.

### **Irrigation System Operating Instructions**

- 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.
- Do not apply when wind speed favors drift beyond the area intended.

### **Center Pivot Irrigation Equipment**

Use only with drive systems which provide uniform water distribution. Do not use end guns when applying Bumper 41.8 EC 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 Bumper 41.8 EC 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 Bumper 41.8 EC required to treat the area covered by the irrigation system.
- Add the required amount of Bumper 41.8 EC 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 Bumper 41.8 EC 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 Bumper 41.8 EC 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 Bumper 41.8 EC through irrigation equipment, use the lowest obtainable water volume while maintaining uniform distribution.
- Determine the amount of Bumper 41.8 EC required to treat the area covered by the irrigation system.
- Add the required amount of Bumper 41.8 EC 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 Bumper 41.8 EC solution has cleared the last sprinkler head.

**Banded Application:** For banded applications, the treated area is the area covered by the band, not total cropland planted. The following formula can be used to calculate the amount of Bumper 41.8 EC needed per acre of crop when banded applications are made:

$$\frac{\text{Band width in inches}}{\text{Row spacing in inches}} \times \text{Broadcast rate per acre} = \text{Amount needed per acre of field}$$

### **MIXING INSTRUCTIONS**

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 rinseate by application to an already treated area.

**Bumper 41.8 EC Alone:** Add 1/2-2/3 of the required amount of water to the spray or mixing tank. With the agitator running, add the Bumper 41.8 EC to the tank. Continue agitation while adding the remainder of the water. Begin application of the spray solution after the Bumper 41.8 EC has completely dispersed into the mix water. Maintain agitation until all of the mixture has been sprayed.

**Bumper 41.8 EC + Tank Mixtures:** Bumper 41.8 EC is usually compatible with most insecticides, fungicides, and foliar nutrients; however, do not mix Bumper 41.8 EC with Syllit<sup>®</sup>, or crop injury may occur.

To determine the physical compatibility of Bumper 41.8 EC 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 powder and water-dispersible granular products first, the 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.

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 into the tank. Allow the material to completely dissolve and disperse into the mix water. Continue agitation while adding the remainder of the water and Bumper 41.8 EC to the spray tank. Allow the Bumper 41.8 EC to completely disperse. Spray the mixture with the agitator running.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Do not mix this product with any product whose label prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are registered.

#### ROTATIONAL CROPS

Alfalfa can be planted 75 days after the last Bumper 41.8 EC application if the total application of propiconazole has not exceeded 0.22 lbs active ingredient per acre during the previous year. Do not plant any other crop intended for food, grazing, or any component of animal feed or bedding within 105 days of Bumper 41.8 EC application to the preceding crop unless the second crop appears on this label.

#### RESISTANCE MANAGEMENT

Bumper 41.8 EC is effective in controlling pests and minimizing the development of resistance when used in rotation with other fungicides in an IPM program. Use high labeled rates for Bumper 41.8 EC under heavy disease pressure to minimize the risk for the development of fungicide resistance.

To reduce selection pressure for resistant pests:

- Use Bumper 41.8 EC in rotation with classes of fungicides with different modes of action.
- Use Bumper 41.8 EC as part of a pest management program that includes cultural and biological control where possible.
- Bumper 41.8 EC is in the Group 3 class of fungicides. The mode of action for propiconazole, the active ingredient in this product, is as a demethylation inhibitor of sterol biosynthesis (DMI) which disrupts membrane synthesis by blocking demethylation. Resistance can develop when products with the same mode of action are used repeatedly.
- Consult your State or local agricultural pest control advisor(s) for pest control strategies established for your area.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of Bumper 41.8 EC or other Group 3 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information or to report suspected resistance contact ADAMA at 1-866-406-6262. You can also contact your pesticide distributor or university extension specialist to report resistance.

**CROP SPECIFIC DIRECTIONS FOR USE**

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
ALMONDS	Brown Rot Blossom Blight ( <i>Monilinia laxa</i> , <i>M. fructicola</i> )	4-8 fl oz	Apply Bumper 41.8 EC in at least 15 gallons of spray per acre at 5-10% bloom and 50-100% bloom using ground or air equipment in sufficient volume to provide thorough coverage. Under severe disease conditions, use the highest rate. Minimum retreatment interval is 7 days.
	Anthracnose ( <i>Collectotrichum acutatum</i> )	8 fl oz	Apply Bumper 41.8 EC in at least 15 gallons of spray per acre beginning at bud break using ground or air equipment in sufficient volume to provide thorough coverage on a 7-14 day interval.
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>Do not apply more than 32 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (8 fl oz/A) or 8 applications per year when applying at the lowest rate (4 fl oz/A).</li> <li>Do not apply more than 0.9 lb a.i. propiconazole/A/year.</li> <li>Do not apply within 60 days of harvest.</li> <li>Do not graze livestock in treated areas or cut treated cover crop for feed.</li> </ul>			
BANANAS AND PLANTAINS	Black Sigatoka ( <i>Mycosphaerella fijiensis</i> )	3 fl oz	<p>Make applications before disease symptoms appear at the onset of the rainy season. Apply specified rate in 10 to 20 gallons of water per acre using ground or air application equipment. Make no more than 2 consecutive applications on a 21 to 25 day schedule before rotating to another labeled product with a different mode of action for at least 2 sprays. A maximum of 8 applications can be made. If possible, have at least 2 consecutive months "triazole free" during the period of lower disease pressure.</p> <p><b>Mixing Procedures</b></p> <p><b>Oil-in-Water Emulsion:</b> Add the crop oil to the spray tank. Add the emulsifier (0.6 fl oz per gal of oil) and Bumper 41.8 EC to the spray tank and mix thoroughly for 5 minutes. Add water to the spray tank and mix thoroughly for 15 minutes.</p> <p><b>Oil Alone:</b> Add crop oil to the spray tank. Add the Bumper 41.8 EC to the spray tank and mix thoroughly for 5 minutes.</p> <p>Maintain agitation.</p>
	<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>Do not apply Bumper 41.8 EC within 100 yards of non-bagged bananas.</li> <li>Do not apply Bumper 41.8 EC on bananas or plantains unless they are protected by polyethylene bags.</li> <li>Do not exceed 8 applications per year.</li> <li>Do not apply more than 24 fl oz of Bumper 41.8 EC during each growing season (this includes any pre-harvest sprays).</li> <li>Do not feed whole bananas and plantains to animals.</li> <li>Do not apply more than 0.67 lb a.i. propiconazole/A/year.</li> </ul>		

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
<b>BERRIES</b> <b>*Bushberries</b> Bingleberry, Blackberry, Blueberry, Bosenberry, Currants, Dewberry, Elderberry, Gooseberry, Huckleberry, <b>*Caneberries</b> Loganberry, Lowberry, Marionberry, Olallieberry, Red and Black Rasperry, Youngberry <b>Juneberry</b> <b>Lingonberry</b> <b>Salal and cultivars            and/or hybrids of            these</b> <b>Low Growing Berries            (See Strawberry            Section)</b>	Mummyberry Disease ( <i>Monilinia vaccinocorymbosi</i> )	6 fl oz	Make first application beginning at green tip and repeat in 7 to 10 days. If conditions are favorable for disease development, additional applications may need to be made at pink bud and repeated every 7 to 10 days through petal fall.
	Leaf spot and Stem canker ( <i>Septoria albopucate</i> ) Rust ( <i>Pucciniastrum vaccinii</i> )	6 fl oz	Apply when conditions favor disease development. Repeat applications on a 4 week spray interval.
	Leaf and Cane Spot ( <i>Septoria rubi</i> )	6 fl oz	Apply as a delayed dormant spray after training in the spring. Repeat this application in the late spring, again at bud break, and again once flowering has begun.
	Powdery Mildew ( <i>Microsphaera vaccinii</i> )	6 fl oz	Apply at 5-10% bloom. Repeat this application at full bloom and on a 14 day interval while conditions are favorable for disease development.
	Leaf Spot ( <i>Septoria spp.</i> )	6 fl oz	Make first application any time prior to bloom and again after petal fall. If needed, repeat application just after harvest.
	Cottonball ( <i>Monilinia oxycocci</i> )	4-6 fl oz	Make the first application at leaf bud break and repeat in 7 to 10 days. Make the third application at early bloom and repeat in 7 to 10 days. Apply in 20 to 50 gals of water for ground application or 5 gals of water for aerial application. Under severe pressure, use the higher rate for control.



CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
<b>BULB VEGETABLES</b> <b>Bulb Onions*</b> Garlic Bulb, Onion (dry bulb) Shallot (dry bulb) Cultivars, varieties, and/or hybrids of these. See additional crops. <b>ONIONS, GREEN*</b> Green Shallots, Green Eschalots, Japanese bunching onions, Leeks, Spring Onions, Scallions And or cultivars or hybrids of these. See additional crops.	Purple Blotch ( <i>Alternaria pom</i> ) Suppression of Botrytis leaf blight ( <i>Botrytis squamosa</i> )	4-8 fl oz ----- 2-4 fl oz plus tank mix partner	Apply by ground in a minimum of 15 gals of water per acre or by air in a minimum of 5 gals of water per acre. Begin applications when conditions favor disease development and continue on a 7 to 10 day interval. Use the higher rate and shorter interval when disease conditions are severe. In tank mix, apply specified rate in combination with another fungicide for control of Botrytis leaf blight or purple blotch. Begin applications when conditions favor disease development and continue on a 7 to 10 day interval or according to the tank mix partner's label. Use higher rates when disease conditions are severe. To achieve optimum control, use a wetting agent or a spreader/sticker.
		2 fl oz plus chlorothalonil at 0.75 lb a.i.	Apply specified rate of Bumper 41.8 EC with 0.75 lb a.i. of chlorothalonil per acre. Begin applications when conditions favor disease development. Continue applications on a 7 to 10 day interval.
<p><b>*Additional Bulb Onions:</b> Daylilly, Fritillaria, Great-headed Garlic, Serpent Garlic, Lily, Chinese Onion, Pearl Onion, Potato Onion.</p> <p><b>*Additional Green Onions:</b> Fresh Chive Leaves, Fresh Chinese Chive Leaves, Host Elegans, Fritillaria Leaves, Kurrat, Lady's Leek, Wild Leek, Beltsville Bunching Onion, Macrostem Onion, Tree Tops Onion, Welsh Onion Tops.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>Do not apply more than 16 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 2 applications per year when applying at the highest rate (8 fl oz/A) or 8 applications per year when applying at the lowest rate (2 fl oz/A). When applying 4 fl oz/A, do not exceed 4 applications per year.</li> <li>Do not apply within 14 days of harvest on dry bulb onions.</li> <li>Bumper 41.8 EC may be applied on day 0 of harvest for green onion types.</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul>			
<b>CARROTS</b>	Leaf Blights ( <i>Cercospora carotae</i> ) (suppression of <i>Alternaria dauci</i> ) Powdery Mildew ( <i>Erysiphe polygoni</i> )	4 fl oz	Apply when conditions favor disease development. Continue applications on a 7 to 10 day interval using the shorter interval when disease conditions are severe. If desired, a spreader-sticker may be used.
		2 fl oz plus chlorothalonil at 0.75 lb a.i.	Apply specified rate of Bumper 41.8EC with 0.75 lb a.i. of chlorothalonil per acre. Begin applications when conditions favor disease development. Continue applications on a 7 to 10 day interval.
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>Bumper 41.8EC may be applied by either ground in a minimum of 15 gal per acre or air in a minimum of 5 gal per acre.</li> <li>Do not apply more than 16 fl oz/A/year.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (4 fl oz/A) or 8 applications per year when applying at the lowest rate (2 fl oz/A).</li> <li>Do not apply within 14 days of harvest.</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul>			

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
<b>CELERY AND LEAF PETIOLES SUBGROUP</b> Celery Chinese Celery Cardoon Celtuce Florence Fennel Rhubarb Swiss Chard	Early blight ( <i>Cercospora apii</i> ) Late blight ( <i>Septoria apicola</i> )  <b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 16 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year.</li> <li>Do not apply within 14 days of harvest.</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul>	4 fl oz	Apply specified rate of Bumper 41.8 EC on a 7 day schedule either by ground or air. If desired, Bumper 41.8 EC may be tank mixed with an appropriate spreader-sticker. Apply in 10 gals of water for ground application or 5 gals of water for aerial application.
<b>CEREALS</b> Barley Rye Triticale Oats	Control of leaf diseases: Rusts ( <i>Puccinia</i> spp.) Powdery mildew ( <i>Erysiphe</i> spp.) Leaf blight Glume blotch Tan spot ( <i>Pyrenophora tritici-repentis</i> ) Helminthosporium leaf blight Spot blotch ( <i>Bipolaris sorokinina</i> ) Barley scald ( <i>Rhynchosporium secalis</i> ) Barley stripe Net blotch ( <i>Pyrenophora teres</i> )	4 fl oz	Protecting the flag leaf is important for maximizing yield. When Bumper 41.8 EC is applied at 50% to fully emerged, the highest yields are normally obtained. Applications may be made no closer than at 14 day intervals. The use of an oil based adjuvant may improve spray coverage.
	Early Season Suppression of: Tan spot Powdery mildew Glume blotch Leaf Blight ( <i>Septoria tritici</i> )	2-4 fl oz	For early season leaf disease suppression, apply specified rate of Bumper 41.8 EC for suppression of listed diseases. Apply in the spring. Make a second application up to Feekes growth stage 10.5 for season long control. Applications may be made no closer than a 14 day interval.
	Foot rot ( <i>Pseudocercospora</i> spp.)	4 fl oz	Apply specified rate of Bumper 41.8 EC per acre plus half rates of other EPA-registered fungicides such as Topsin® M. Apply at tillering but before elongation has occurred.
	Fusarium head blight (suppression only)	4 fl oz	Apply Bumper 41.8 EC at approximately 50% flowering. Addition of a penetrating type of adjuvant may increase Fusarium head blight suppression.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Applications may be made using ground, air, or chemigation equipment.</li> <li>Do not apply more than 8 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not apply more than 4 fl oz/A/year if forage or hay will be harvested.</li> <li>Do not exceed 2 applications per year when applying at the highest rate (4 fl oz/A) or 4 applications per year when applying at the lowest rate (2 fl oz/A).</li> <li>Do not apply within 30 days of harvest for forage or hay, 45 days before harvest for grain and straw or for cereals other than wheat.</li> <li>Do not apply more than 0.22 lb a.i. propiconazole/A/year.</li> </ul>		

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
CEREALS Wheat	<b>Control of leaf diseases:</b> Rust ( <i>Puccinia</i> spp.) Powdery mildew ( <i>Blumeria</i> spp., <i>Erysiphe</i> spp.) Leaf blight ( <i>Septoria tritici</i> ) Glume blotch ( <i>Stagonospora nordorum</i> ) Tan spot ( <i>Pyrenophora tritici-repentis</i> ) Helminthosporium leaf blight ( <i>Drechslera tritici-repentis</i> ) Spot blotch ( <i>Bipolaris sorokiniana</i> ) Net blotch ( <i>Pyrenophora teres</i> )	4 fl oz	Protecting the flag leaf is important for maximizing yield. When Bumper 41.8 EC is applied at 50% to fully emerged, the highest yields are normally obtained. Applications may be made no closer than at 14-day intervals. The use of an oil-based adjuvant may improve spray coverage.  Bumper 41.8 EC can be applied through full head emergence (Feekes growth stage 10.5). Do not apply after this stage to avoid possible illegal residues.
	<b>Early Season Suppression of:</b> Powdery mildew ( <i>Blumeria</i> spp., <i>Erysiphe</i> spp.) Leaf Blight ( <i>Septoria tritici</i> ) Glume blotch ( <i>Stagonospora nordorum</i> ) Tan spot ( <i>Pyrenophora tritici-repentis</i> )	2-4 fl oz	Apply in the spring. Make a second application up to Feekes growth stage 10.5 for season-long control. Applications may be made no closer than at 14-day intervals.
	Foot rot ( <i>Pseudocercospora</i> spp.)	4 fl oz	Apply Bumper 41.8 EC per acre plus half rates of other EPA-registered fungicides such as thiophanate methyl. Apply at tillering but before elongation has occurred.
	Fusarium head blight (suppression only)	4 fl oz	Apply Bumper 41.8 EC at approximately 50% flowering. Addition of a penetrating type of adjuvant may increase Fusarium head blight suppression.
	<p><b>Application:</b> Bumper 41.8 EC is most effective when applied and allowed to dry before rainfall. For best results, sufficient water volume should be used to provide thorough coverage. Applications may be made using ground, air, or chemigation equipment.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Do not apply within 40 days for harvest for forage or hay.</li> <li>• Do not apply more than 8 fl oz/A/year of Bumper 41.8 EC.</li> <li>• Do not apply more than 4 fl oz/A/year of Bumper 41.8EC if forage or hay will be harvested.</li> <li>• Do not exceed 2 applications per year when applying at the highest rate (4 fl oz/A) or 4 applications per year when applying at the lowest rate (2 fl oz/A).</li> <li>• Do not apply more than 0.22 lb a.i. propiconazole/A/year.</li> <li>• Do not apply after Feekes growth stage 10.5 in wheat.</li> </ul>		

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
<b>CITRUS</b> (non-bearing) 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	Greasy Spot	6-8 fl oz	Begin applications in June. Apply at 30 day intervals through August. Bumper 41.8 EC may be applied by either ground or aerial application in a minimum of 15 gal per acre.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 24 fl oz/A/year of Bumper 41.8 EC</li> <li>Do not exceed 3 applications per year when applying at the highest rate (8 fl oz/A) or 4 applications per year when applying at the lowest rate (6 fl oz/A).</li> <li>Do not apply to citrus that will bear harvestable fruit within 12 months.</li> <li>Do not apply more than 0.67 lb a.i. propiconazole/A/year.</li> </ul>		
<b>CORN</b> (field, seed, and popcorn)	Helminthosporium leaf blights ( <i>Helminthosporium maydis</i> , <i>H. turcicum</i> , and <i>H. caribonum</i> )	2-4 fl oz	Apply when disease first appears and continue on a 7 to 14 day schedule. Use the low rate when disease pressure is low. Under heavy pressure or when conditions favor disease development, apply the high rate. Apply Bumper 41.8 EC at specified rates by ground, air, or chemigation.
<b>SWEET CORN</b>	Rusts ( <i>Puccinia</i> spp.)	4 fl oz	Apply Bumper 41.8 EC at specified rates by ground, air, or chemigation when rust pustules first appear and continue on a 7- to 14-day schedule when conditions favor disease development. For best disease control, early applications at initial disease onset perform better.
	Gray leaf spot ( <i>Cercospora zeae-maydis</i> ) Eye spot ( <i>Kabatiella zeae</i> )		
<b>Restrictions:</b> <p><b>For field corn, field corn grown for seed, and popcorn:</b></p> <ul style="list-style-type: none"> <li>Do not apply more than 16 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (4 fl oz/A) or 8 applications per year when applying at the lowest rate (2 fl oz/A).</li> <li>Do not apply within 30 days of harvest for forage, grain, and stover.</li> <li>Do not apply more than 8 fl oz/A/year of Bumper 41.8 EC on field corn harvested for forage.</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul> <p><b>For sweet corn:</b></p> <ul style="list-style-type: none"> <li>Do not apply within 14 days of harvest for ears and 14 days of harvest for forage.</li> </ul>			

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
CRANBERRIES (OR, WA, WI only)	Cottonball ( <i>Monilinia oxycocci</i> )	4-6 fl oz	Make the first application at leaf bud break. Make the second application 14 days later. Make the third application at early bloom and repeat again in 14 days. Under severe pressure, use the higher rate for control. Bumper 41.8 EC may be applied by either ground or aerial application equipment in a minimum of 20 gal per acre.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 24 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (6 fl oz/A) or 6 applications per year when applying at the lowest rate (4 fl oz/A).</li> <li>Do not apply within 45 days of harvest.</li> <li>Do not apply more than 0.67 lb a.i. propiconazole/A/year.</li> <li>Do not use cranberry fields used for aquaculture of fish and crustaceans.</li> <li>Do not apply when weather conditions favor drift from treated areas to non-target aquatic habitats. Applicators should use care in making applications near non-target aquatic habitats.</li> <li>Do not apply to flooded crop.</li> <li>Do not allow release of irrigation or flood water to non-target aquatic habitat for at least 14 days after the last application.</li> </ul>		
FILBERTS (Hazelnuts)	Eastern Filbert Blight ( <i>Anisogramma anomala</i> )	5-8 fl oz	Begin applications when green leaf tissue becomes visible and continue at 14 to 21 day intervals. Under severe disease conditions, use the higher rate and shorter interval.  On certain varieties, Bumper 41.8 EC applications may cause smaller and/or greener leaves. Yields of filberts displaying these characteristics have not been reduced due to propiconazole treatments. Bumper may be applied by either ground or aerial application in a minimum of 15 gal per acre.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 32 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (8 fl oz/A) or 6 applications per year when applying at the lowest rate (5 fl oz/A).</li> <li>Do not apply more than 0.9 lb a.i. propiconazole per acre per year.</li> <li>Do not apply within 60 days of harvest.</li> <li>Do not graze livestock in treated areas or cut treated crop for feed.</li> </ul>		
GARDEN BEETS	Leaf Spot ( <i>Cercospora beticola</i> )  Powdery Mildew ( <i>Erysiphe polygoni</i> )	3-4 fl oz	Begin applications at first sign of disease and repeat on a 14 day interval. Make no more than 2 consecutive applications before rotating to another registered fungicide with a different mode of action.  If disease levels continue to increase, immediately switch to a fungicide with a different mode of action.  Applications are most effective when applied and allowed to dry before a rainfall. Use sufficient water volume to provide thorough coverage.  Bumper 41.8 can be applied by ground, air, or chemigation.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply within 14 days of harvest.</li> <li>Do not apply more than 16 fl oz/A/year.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (4 fl oz/A) or 5 applications per year when applying at the lowest rate (3 fl oz/A).</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul>		

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
<b>GRASSES GROWN FOR SEED</b> (NE, OR, WA, ID, and MN only)	Rusts ( <i>Puccinia</i> spp.) Powdery mildew ( <i>Erysiphe</i> spp.) Selenophoma stem eyespot ( <i>Selenophoma</i> ) Ergot Suppression	4-8 fl oz	Apply Bumper 41.8 EC at specified rates by ground in a minimum of 20 gallons, by air in a minimum of 10 gals of water per acre, or through irrigation equipment. Apply when powdery mildew and <i>Selenophoma</i> infections or rust pustules are noticeable and increasing in number in late spring or early summer. Repeat at 14 to 21 day intervals. To maximize control under severe rust pressure, use the higher rate of 8 fl oz per acre and make applications at 14 day intervals until the seed is mature. Make the last application at least 20 days before seed matures. For bluegrass, it is important to begin applications early in the growing season.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 32 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (8 fl oz/A) or 8 applications per year when applying at the lowest rate (4 fl oz/A).</li> <li>Do not feed hay cut within 20 days of the last application.</li> <li>Do not graze treated areas within 140 days of the last application.</li> <li>Do not apply more than 0.9 lb a.i. propiconazole/A/year.</li> <li>Do not apply within 20 days of harvest (20-PHI) of seed.</li> <li>Do not apply to Bermuda grass grown for seed.</li> </ul>		
<b>MINT</b> Peppermint Spearmint	Rust ( <i>Puccinia menthae</i> )	4 fl oz	Apply specified rate of Bumper 41.8 EC in a minimum of 20 gals of water per acre using ground application. Begin applications when plants are 2 to 4 inches high or when conditions become favorable for disease development. Make a second application 14 days after the first application.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply within 7 days of harvest.</li> <li>Do not exceed 3 applications per year.</li> <li>Do not exceed 12 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not apply more than 0.34 lb a.i. propiconazole/A/year.</li> </ul>		
<b>PARSLEY</b> Fresh and Dried Leaves <b>CILANTRO</b> (Coriander), Leaves	Leaf Spot ( <i>Cercospora</i> spp.)	3-4 fl oz	Begin applications at first sign of disease and repeat on a 14 day interval. Make no more than 2 consecutive applications before rotating to another registered fungicide with a different mode of action. If disease levels continue to increase, immediately switch to a fungicide with a different mode of action. Applications are most effective when applied and allowed to dry before a rainfall. Use sufficient water volume to provide thorough coverage. Bumper 41.8 EC can be applied by air, ground, or chemigation equipment.
	Powdery Mildew ( <i>Erysiphe</i> spp.)		
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 16 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (4 fl oz/A) or 5 applications per year when applying at the lowest rate (3 fl oz/A).</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> <li>Do not apply within 14 days of harvest.</li> </ul>			

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
PEANUTS	Late leaf spot ( <i>Cercosporidium</i> ) Early leaf spot ( <i>Cercospora arachidicola</i> ) Rust ( <i>Puccinia arachidis</i> ) Web Blotch ( <i>Phoma arachidicola</i> )	2.5-4 fl oz	Use 2.5-4 fl oz on Early leaf spot and use 4 fl oz on all other listed diseases. Apply the specified dosage of Bumper 41.8 EC alone using ground, aerial, or chemigation equipment beginning applications 35 to 40 days after planting or at the first appearance of disease. Continue applications on a 10 to 14 day schedule. Under heavy disease pressure, use higher application rates. Bumper 41.8 EC also may be used in State Agricultural Extension advisory (disease forecasting) programs which specify application timing based on environmental factors favorable for disease development.
	Southern Stem Rot ( <i>Sclerotium rolfsii</i> )	See <b>INSTRUCTIONS</b> section for appropriate rate	Apply Bumper 41.8 EC at the specified rate according to one of the following schedules: A. Apply 4 fl oz of Bumper 41.8 EC per acre to the crown and pegging zones of the plant using chemigation or directed ground application. Begin applications 45 days after planting or at the first appearance of disease, and repeat on a 14 day schedule. B. Apply 8 fl oz of Bumper 41.8 EC per acre to the crown and pegging zones of the plant using chemigation or directed ground application. Make 2 applications; the first at pegging (approximately 60 days after planting) or at the first appearance of disease, and the second application 3 to 4 weeks later. <b>Irrigation:</b> When applying Bumper 41.8 EC in irrigation water for Southern Stem Rot Control, use a minimum of 0.25 to 0.5 inch of irrigation water per acre. Use enough water so that the fungicide penetrates the peanut canopy and reaches the crown of the plant where <i>Sclerotium rolfsii</i> is most active. When using Bumper 41.8 EC via irrigation or directed ground application, additional methods should be used for leaf spot control.
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 16 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (4 fl oz/A) or 6 applications per year when applying at the lowest rate (2.5 fl oz/A).</li> <li>Do not feed hay from treated fields to livestock if the high rate was used.</li> <li>Do not apply within 14 days of harvest when using no more than 4 fl oz/A and within 21 days of harvest if using 8 fl oz/A.</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul>			
PECANS	Pecan Scab ( <i>Cladosporium caryigenum</i> ) Downy Spot ( <i>Mycosphaerella caryigena</i> ) Liver Spot ( <i>Gnomonia caryae pv pecanae</i> ) Vein Spot ( <i>Gnomonia nerviseda</i> ) Zonate Leaf Spot ( <i>Cirstulariella moricola</i> ) Powdery Mildew ( <i>Microsphaera penicillata</i> )	4-8 fl oz	<b>Pecan scab:</b> Apply 4-8 fl oz per acre on a 14 day schedule during bud break and pre-pollination sprays. Apply 6-8 fl oz per acre during nut formation and cover sprays. Use higher rates when disease pressure is heavier. <b>Other listed foliar diseases:</b> Apply 4 fl oz per acre with other registered pecan products labeled for these mid to later season foliar diseases. Observe all directions, precautions, and limitations for the other products. Bumper 41.8 EC may be applied by either ground or by aerial application in a minimum of 20 gal per acre. Propiconazole may have effects on federally listed threatened and endangered species or critical habitat in some counties. When using this product, you must follow the measures contained in the County Bulletin for the county in which you are making the pesticide application. To determine whether your county has a bulletin, consult <a href="http://www.epa.gov/esp/usa-map.htm">http://www.epa.gov/esp/usa-map.htm</a> . Bulletins may also be available from local pesticide dealers, extension offices, or state pesticide agencies.

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
PECANS	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 32 fl oz/A/year of Bumper 41.8 EC .</li> <li>Do not exceed 4 applications per year when applying at the highest rate (8 fl oz/A) or 8 applications per year when applying at the lowest rate (4 fl oz/A).</li> <li>Do not apply after shuck split or within 45 days after harvest, whichever comes first.</li> <li>Do not apply more than 0.9 lb a.i. of propiconazole/A/year.</li> <li>Do not graze livestock in treated areas or cut treated cover crop for feed.</li> </ul>		
PINEAPPLE (HI only)	butt rot disease of pineapple ( <i>Ceratocystis paradoxa</i> )	0.75 fl oz (22 ml) per 100 gals of water (1:17,000)	Treatments can be made in either a cold or hot water dip. <b>Cold Water Dip</b> -Immerse crowns to give thorough wetting, remove, and allow to drain. <b>Hot Water Dip</b> -Maintain water temperature at 125°F (52°C) . Soak crowns for 20 to 30 minutes, remove, and allow to drain.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not use treated crowns for food or feed.</li> <li>Do not graze while plant is growing.</li> <li>Do not graze tops until fruit is harvested.</li> <li>Dispose of used dip solution according to local, state, and federal regulations.</li> </ul>		
PISTACHIOS	Botryosphera Panicle and Shoot Blight ( <i>Botryosphera dothidea</i> )	5-8 fl oz	Begin applications when green leaf tissue becomes visible and continue on a 14 to 21 day interval. Under severe disease conditions, use the higher rate and the shorter interval. Under certain conditions Bumper 41.8 EC applications may cause smaller and/or greener leaves. Yields of pistachios displaying these characteristics have not been reduced due to Bumper 41.8 EC treatments. Bumper 41.8 EC may be applied by either ground or by aerial application in a minimum of 15 gal per acre.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 32 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (8 fl oz/A) or 6 applications per year when applying at the lowest rate (5 fl oz/A).</li> <li>Do not apply within 60 days of harvest.</li> <li>Do not apply more than 0.9 lb a.i. propiconazole/A/year.</li> <li>Do not graze livestock in treated areas or cut treated cover crop for feed.</li> </ul>		



CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
RICE	Sheath blight ( <i>Rhizoctonia solani</i> ) Brown leaf spot ( <i>Helminthosporium oryzae</i> ) Narrow brown leaf spot and brown blotch ( <i>Cercospora oryzae</i> ) Leaf smut ( <i>Entyloa oryzae</i> ) Sheath spot ( <i>Rhizoctonia oryzae</i> ) Kernel smut ( <i>Tilletia barclayana</i> ) Aggregate sheath spot ( <i>Rhizoctonia oryzae-sativa</i> ) Black sheath rot ( <i>Gaeumannomyces graminis</i> ) Stem rot suppression ( <i>Sclerotium oryzae</i> ) False smut suppression ( <i>Ustilaginoida virens</i> )	See <b>INSTRUCTIONS</b> section for appropriate rate	The timing of Bumper 41.8 EC application will depend on disease severity, disease complex, and rice variety and growth stage. Apply Bumper 41.8 EC at specified rates on either of the following schedules as an aerial spray in 5 to10 gals of water per acre: A. 6 fl oz per acre at first internode elongation (up to 2 - inch panicle) and repeat at swollen boot. Make the second application 10 to14 days after the first application but before the boot splits and head emerges. Bumper 41.8 EC provides best control of sheath blight when the first application is applied at disease appearance in the field. Make the first application when 5% or fewer of the tillers are infected. B. 10 fl oz per acre at first internode elongation (up to 2 - inch panicle). Use the 10 oz rate if greater than 10% of the tillers are infected with sheath blight. If disease reappears, use another registered fungicide for the second application. C. Apply 6 fl oz per acre in a tank mix with Quadris® or other fungicides for control of diseases of rice.
<b>WILD RICE</b> (MN only)	Helminthosporium leaf blight and brown spot ( <i>Bipolaris</i> spp.)	6-8 fl oz	Apply specified rate of Bumper 41.8 EC per acre at both booting and heading, or make a single application of 8 fl oz per acre at booting. Make application using aerial application equipment. The minimum application interval is 10 days.
<p><b>For Rice and Wild Rice Uses:</b> Propiconazole may have effects on federally listed threatened and endangered species or critical habitat in some counties. When using this product, you must follow the measures contained in the County Bulletin for the county in which you are making the pesticide application. To determine whether your county has a bulletin, consult <a href="http://www.epa.gov/espp/usa-map.htm">http://www.epa.gov/espp/usa-map.htm</a>. Bulletins may also be available from local pesticide dealers, extension offices, or state pesticide agencies.</p>			
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Do not make applications using ground or chemigation equipment. Only aerial application is allowed.</li> <li>• Do not apply to stubble or ratoon crop rice.</li> <li>• Do not use in rice fields where commercial farming of crayfish will be practiced.</li> <li>• Do not drain water from treated rice fields into ponds used for commercial fish farming.</li> <li>• Do not use water drained from treated fields to irrigate other crops.</li> <li>• Do not apply more than 12 fl oz/A/year of Bumper 41.8 EC.</li> <li>• Do not apply within 35 days of harvest.</li> <li>• Do not exceed 1 application per year when applying at the highest rate (10 fl oz/A) or 2 applications per year when applying at the lowest rate (6 fl oz/A).</li> <li>• Do not apply more than 0.34 lb a.i. propiconazole/A/year.</li> <li>• Do not release flood water within 7 days of an application.</li> </ul>			

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
SORGHUM	Ergot ( <i>Claviceps sorghi</i> )	3-4 fl oz	Make first application at or just prior to flowering. Repeat on a 5 to 7 day interval. Apply up to four times. Make application using aerial application equipment in a minimum of 10 gals of spray per acre or by ground in a minimum of 15 gals of spray per acre.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 16 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year.</li> <li>Do not apply within 30 days of harvest for forage.</li> <li>Do not apply within 21 days of harvest for grain and stover.</li> <li>Do not graze livestock or cut for green chop or silage within 30 days of application.</li> <li>Do not apply more than 8 fl oz/A/year of Bumper 41.8 EC on sorghum harvested for forage.</li> <li>Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul>		
SOYBEANS	Aerial Web Blight ( <i>Rhizoctonia solani</i> ) Anthracnose ( <i>Colletotrichum truncatum</i> ) Brown Spot ( <i>Septoria glycines</i> ) Frogeye Leaf Spot ( <i>Cercospora sojina</i> ) Soybean Rust ( <i>Phakopsora pachyrhizi</i> )	4-6 fl oz	Applications may be made using ground or aerial application equipment. Use dilution rates found in the <b>APPLICATION INSTRUCTIONS</b> section of this label. When applying by air, add an oil-based additive for improved coverage and penetration. Apply 5-6 fl oz at the first appearance of Aerial web blight and repeat the application 14 to 21 days later. Under severe conditions, use the higher rate and shorter interval. For control of other foliar diseases, apply 6 fl oz at growth stage R3 (early pod set) when pods are 1/8 to 1/4 inch long and 21 days later at growth stage R5 (pod fill). Apply 4-6 fl oz at first indication that soybean rust is in the area. For best control, preventative applications work best. Repeat on a 14 to 21 day interval using the higher rate and shorter interval when disease is present in field and incidence is less than 2% (2 plants in 100 infected). If incidence is greater than this or if disease is in mid canopy, control will not be acceptable. Scouting for rust and/or being aware of the proximity of the disease via monitoring systems will aid in the proper timing to maximize the effectiveness of the fungicide applications. On certain varieties, Bumper applications may cause crinkled or smaller greener leaves. Yields of dry beans displaying these characteristics have not been reduced due to propiconazole treatments.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 12 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 2 applications per year when applying at the highest rate (6 fl oz/A) or 3 applications per year when applying at the lowest rate (4 fl oz/A).</li> <li>Applications may be made up to growth stage R6.</li> <li>Do not apply more than 0.34 lb a.i. propiconazole/A/year.</li> </ul>		

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
<b>STONE FRUIT:</b> Apricots, Cherries (Sweet And Tart), Nectarines, Peaches, Plums, Plumcots, Prunes, And Cultivars And Or Hybrids Of These	Brown Rot Blossom Blight ( <i>Monilinia</i> spp.)	4 fl oz	Apply by ground or air in a minimum of 15 gal per acre at early bloom stage. Stone fruit diseases are most effectively controlled by ground applications. If disease pressure is low, a second application may be made as needed up through petal fall. Make a second application if disease pressure is high or for susceptible varieties at 75-100% bloom. If blossoming is prolonged or conditions favorable for disease persist, make a third application at petal fall.
	Powdery Mildew ( <i>Podosphaera</i> spp.) Cherry Leaf Spot ( <i>Blumeriella jaapii</i> ) Rust ( <i>Tranzschelia discolor</i> )	4 fl oz	Follow the brown rot blossom blight schedule above applying by ground or air in a minimum of 15 gal per acre. Stone fruit diseases are most effectively controlled by ground applications. Make up to 2 additional applications on a 10 to 14 day interval from the end of petal fall to harvest.
	Fruit Brown Rot ( <i>Monilinia</i> spp.)	4 fl oz	Apply by ground or air in a minimum of 15 gal per acre as needed with a maximum of 2 sprays during the preharvest period up to the day of harvest (0 day PHI). Stone fruit diseases are most effectively controlled by ground applications. If high inoculum and severe disease conditions persist, apply another registered fungicide after the two Bumper 41.8 EC applications.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>• Bumper 41.8 EC may be applied on the day of harvest.</li> <li>• Do not exceed 5 applications per year.</li> <li>• Do not apply more than 0.56 lb a.i. propiconazole/A/year.</li> <li>• Do not apply more than 20 fl oz/A/year of Bumper 41.8 EC.</li> <li>• Applications of Bumper 41.8 EC during bloom to Stanley plums have occasionally caused fruit to be less oval in shape and smaller in size at harvest. To avoid this, do not apply Bumper 41.8 EC to Stanley plums earlier than 21 days before harvest.</li> </ul>		
<b>STRAWBERRIES AND OTHER LOW GROWING BERRIES</b>  <b>Additional Low Growing Berries:</b> Bearberry, Bilberry, Cloudberry, Muntries, Partridgeberry	Anthracnose ( <i>Colletotrichum acutatum</i> ) Leaf Spot ( <i>Cercospora fragariae</i> ) Powdery Mildew ( <i>Sphaerotheca macularis</i> ) Leaf Rust ( <i>Phragmidium potentillae</i> )	4 fl oz	Begin applications when disease levels are no more than 5%. Apply up to 4 times on a 7 day interval. Make no more than 2 consecutive applications before rotating to another registered fungicide with a different mode of action.  Bumper 41.8 EC may be applied by either ground in a minimum of 20 gal per acre or aerial in a minimum of 15 gal per acre.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>• Do not apply more than 16 fl oz/A/year of Bumper 41.8 EC.</li> <li>• Bumper 41.8 EC may be applied on the day of harvest.</li> <li>• Do not exceed 4 applications per year.</li> <li>• Do not apply more than 0.45 lb a.i. propiconazole/A/year.</li> </ul>		

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
SUGAR BEETS	Leaf Spot ( <i>Cercospora beticola</i> ) Powdery Mildew ( <i>Erysiphe polygoni</i> )	4 fl oz	Begin applications at first sign of disease and repeat at 10 to 14 day intervals. Make no more than 2 consecutive applications before rotating to another registered fungicide with a different mode of action. If disease levels continue to increase, immediately switch to a fungicide with a different mode of action. Bumper 41.8 EC may be applied by air, ground, or chemigation equipment. Use dilution rates found in the APPLICATION INSTRUCTIONS section of this label.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 12 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 3 applications per year.</li> <li>Do not apply within 21 days of harvest.</li> <li>Do not apply more than 0.34 lb a.i. propiconazole/A/year.</li> </ul>		
SUGARCANE	Pineapple disease ( <i>Ceralocystis paradoxa</i> )	0.75 fl oz (22 ml) per 100 gals of water (1:17,000)	Apply Bumper 41.8 EC to cut seed pieces. Treatments can be applied in either a cold or hot water dip. <b>Cold Water Dip</b> -Immerse seed pieces to give thorough wetting, remove, and allow to drain. <b>Hot Water Dip</b> -Maintain water temperature at 125°F (52°C). Soak the seed pieces for 20 to 30 minutes, remove, and allow to drain. <b>Conveyor Belt Treatment</b> -Treat seed pieces with Bumper/water solution using in-line directed spray sufficient to wet cut ends.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.67 lb a.i. containing products/A/year.</li> <li>Do not apply more than 24 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not release flood water within 7 days of an application.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (6 fl oz/A) or 6 applications per year when applying at the lowest rate (4 fl oz/A).</li> <li>Do not use treated seed pieces for food or feed purposes.</li> <li>Dispose of spent dip solution according to state and federal regulations.</li> </ul>		

CROP	PESTS CONTROLLED	RATE OF APPLICATION PER ACRE	APPLICATION INSTRUCTIONS
<b>TREE NUTS</b> Almond (see specific directions in <b>ALMOND</b> Section) Beechnut Brazil Nut Butternut Cashew Chestnut Chinquapin Filbert (see specific directions in <b>FILBERT</b> section) Hickory Macadamia Pecan (see specific directions in <b>PECAN</b> section) Walnut Pistachios (see specific directions in <b>PISTACHIO</b> section)	Foliar Diseases	4-8 fl oz	Apply Bumper 41.8 EC at first sign of disease. Repeat on a 7 to 14 days interval. Bumper 41.8 EC may be applied by either ground or aerial application in a minimum of 15 gal per acre. Tree nut diseases are most effectively controlled by ground applications.
	<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 32 fl oz/A/year of Bumper 41.8 EC.</li> <li>Do not exceed 4 applications per year when applying at the highest rate (8 fl oz/A) or 8 applications per year when applying at the lowest rate (4 fl oz/A).</li> <li>Do not apply within 60 days of harvest except for pecan (see specific directions in <b>PECAN</b> section of this label).</li> <li>Do not apply more than 0.9 lb a.i. propiconazole/A/year.</li> <li>Do not graze livestock in treated areas or cut treated cover crop for feed.</li> </ul>		

FL OZ OF BUMPER 41.8 EC PER ACRE	LB A. I. PER ACRE	ACRES TREATED PER 1 GALLON OF BUMPER 41.8 EC
2	0.056	64.0
4	0.1125	32.0
6	0.169	21.3
8	0.225	16.0
10	0.28	12.8
12	0.34	10.7
16	0.45	8.0
20	0.56	6.4
24	0.67	5.3
30	0.84	4.3
32	0.90	4.0

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in the original container in a cool and secure place.

**PESTICIDE DISPOSAL:** Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

### CONTAINER HANDLING:

**Nonrefillable Container (five gallons or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container 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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Nonrefillable Container (greater than five gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

### LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES** and **LIMITATIONS OF LIABILITY**.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of ADAMA. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, ADAMA makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of ADAMA is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, ADAMA disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at ADAMA's election, the replacement of product.

Bumper is a registered trademark of an ADAMA Group Company.

Quadris registered trademarks of Syngenta Group Company.

Syllit is a registered trademark of Arysta Lifescience.

Topsin is a registered trademark of Nippon Soda Company.

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# Bumper<sup>®</sup> 41.8 EC (PROPICONAZOLE) FUNGICIDE

ACTIVE INGREDIENT:	% BY WT.
Propiconazole:1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]Methyl]-1h-1,2,4-triazole	41.8%
INERT INGREDIENTS:	58.2%
TOTAL	100.0%

Contains petroleum distillates.

Bumper 41.8 EC contains 3.6 lbs. of active ingredient per gallon.

EPA Reg. No. 66222-42

EPA Est. No. 37429-GA-001<sup>91</sup>; 37429-GA-002<sup>90</sup> 37429-GA-003<sup>9V</sup>

Letter(s) in lot number correspond(s) to superscript in EPA Est. No.

## KEEP OUT OF REACH OF CHILDREN WARNING-AVISO

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

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### WARNING-AVISO

Causes substantial but temporary eye injury. Do not get in eyes or on clothing or skin. Harmful if swallowed. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. 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.

For additional Precautionary Statements, handling, Directions for Use and Storage and Disposal, see inside of this booklet.

How can we help?  
1-866-406-6262

Manufactured for:  
Makhteshim Agan of North America, Inc. d/  
b/a ADAMA  
3120 Highwoods Blvd., Suite 100 Raleigh,  
NC 27604



FUNGICIDE

ADAMA  
ESSENTIALS

GROUP 3 FUNGICIDE

#### FIRST AID

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Immediately call a poison control center or doctor. Do not give any liquid to the person. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person.

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

**Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-250-9291 for emergency medical treatment information.**

**NOTE TO PHYSICIAN:** There is no specific antidote for this product. Induce emesis or lavage stomach, taking care to avoid aspiration of stomach contents into lungs. Contains petroleum distillate-vomiting may cause aspiration pneumonia.

In case of spill, fire, leaks or accidents call 1-800-535-5053.

## STORAGE AND DISPOSAL

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#### CONTAINER HANDLING:

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PEEL BACK BOOK HERE

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Net Contents **2.5 gallons**