

XYLER[®] FC

Fungicide


Active Ingredient:

Metalaxyl: N-(2,6-dimethylphenyl)-N-(methoxyacetyl) alanine methyl ester	31.3 %
Other Ingredients:	68.7 %
TOTAL	100.0 %

This product contains 2.8 pounds of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

This label must be in the possession of the user at the time of application.

See inside booklet for additional precautionary information. Refer to enclosed label for full instructions.

EPA Reg. No. 89118-12

Net Contents: 2½ Gallons

Vive Crop Protection Inc.
500 Westover Dr. #10198
Sanford, NC 27330
1-888-760-0187


By Wt
FIRST AID
If swallowed:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

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.

EMERGENCY INFORMATION

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

In the event of a medical or chemical emergency contact Chemtel Inc. in North America at 1-800-255-3924 or worldwide international at +1-813-248-0585.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Caution. Harmful if swallowed or 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.

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- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

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.

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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: barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, natural rubber \geq 14 mils, polyethylene, polyvinylchloride (PVC) \geq 14 mils or viton \geq 14 mils;
- Shoes plus socks.

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:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

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. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwater or rinsate.

Groundwater Advisory

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

Surface Water Advisory

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow contact with any oxidizing agent. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

Exception: If the product is applied in-furrow or soil-incorporated, the WPS, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

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

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the WPS for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural crops on farms, forests, nurseries, or greenhouses.

Do not enter or allow others or pets to enter the treated area until sprays have dried.

PRODUCT RESTRICTIONS

Rotational Crops

Do not plant any crop that is not registered for use with metalaxyl in metalaxyl-treated soil for a period of 12 months unless a shorter interval is specified on the following list.

ROTATION CROP	PLANTING TIME FROM LAST Xylem FC APPLICATION
Alfalfa (birdsfoot trefoil); Almonds; Apples; Artichoke (Globe); Asparagus; Avocados; Brassica (Cole Crops) Leafy Vegetables; Bushberry Subgroup 13-03B; Caneberry Subgroup 13-07A; Citrus; Clover; Cole Crops; Corn; Cotton; Cucurbit Vegetables; Fruiting Vegetables (Except Cucurbits); Garlic; Ginseng; Grapes; Grasses*; Herbs (Fresh and Dried); Hops; Leafy Vegetables (Excluding Brassica); Legume Vegetables (Beans and Peas - Succulent and Dried); Onions (Dry Bulb, Green, and Seed); Papaya; Peanuts; Peppers; Pineapples; Root and Tuber Vegetables; Soybeans; Stone Fruits; Strawberries; Sunflower; Tobacco; Tropical Fruit; Any other Crops Specified on This Label	0 Days
Cereal Grains Other Than Corn	14 Days
Crops Not Intended for Food or Feed	0 Days
All Other Crops Intended for Food or Feed	12 Months

* Any grass, Gramineae family (either green or cured), except the following: Do not apply to sugarcane; to any of the following that will be fed to or grazed by livestock: barley, buckwheat, corn, millet (pearl or proso), oats, popcorn, rice, rye, sorghum, teosinte, triticale, wheat, or wild rice; or to any enclosed pasture grasses or grasses grown for hay or silage, such as bermudagrass, bluegrass, bromegrass, or fescue.

Replanting

If replanting is necessary, additional applications of this product may be made, provided that the total amount of metalaxyl applied does not exceed the maximum allowed for the specific crop.

Restrictions

- This product is not to be used in foliar applications except as specified on this label or in solutions to dip plants.
- This product is for field use only and may not be used on transplant trays, greenhouses, lath houses, float houses, hydroponic production, or in bedding plant structures.
- Maximum usage when applying both metalaxyl- and mefenoxam-containing products to the same crop within the same year: Do not apply more than the maximum yearly total application rate for the active ingredient as stated on the label of the product containing the lowest yearly total on that crop.

PRODUCT INFORMATION

Xylem FC is a systemic fungicide used to control certain diseases caused by members of the Oomycete class of fungi on specified crops. Other fungicides must be used to control diseases incited by other classes of fungi.

INTEGRATED PEST MANAGEMENT (IPM)

Xylem FC should be used as one component in an integrated disease management program including cultural practices that reduce disease. Consult your local extension specialist or certified crop advisor for local best practices to manage disease. Xylem FC may be used in agricultural extension advisory programs (disease forecasting) which recommend fungicide applications based on environmental and other factors.

SPRAY DRIFT ADVISORIES

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

Importance of Droplet Size

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

Controlling Droplet Size - Ground Boom

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

Controlling Droplet Size - Aircraft

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

Boom Height - Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

Release Height - Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

Shielded Sprayers

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

Temperature and Humidity

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

Temperature Inversions

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

from a ground source or and aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

Wind

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

APPLICATION AND MIXING INSTRUCTIONS

Shake well before use.

Xyler FC fungicide is designed for at-plant, pre-plant incorporated (PPI), soil drench, and other applications specified on this label. Xyler FC must be diluted with water and/or liquid fertilizer before application. Refer to **Specific Use Directions** for pest control or suppression instructions.

Xyler FC is a suspension concentrate formulation. Shake or agitate well prior to measuring or pouring. Like most suspension concentrate formulations, Xyler FC will thicken and separate into multiple layers upon standing for long periods of time. Xyler FC will revert back to an easily flowable and homogenous fluid after shaking.

Do not prepare more mixture than is required for the treatment. For best results, use immediately after mixing. If the mixtures settles, agitate the mixture and assess to ensure thorough re-mixing prior to application.

Make sure that application equipment is thoroughly cleaned and properly calibrated prior to application and thoroughly cleaned after application. For best results:

- Use spray nozzles appropriate for the crop to provide full coverage and uniform distribution of the spray mixture.
- Use screens where appropriate to protect sprayer equipment and prevent clogging.
- Screens used to protect pump on the suction side to be no finer than 16-mesh.
- Do not fit the recirculation line of the spray system with a screen.
- Screens used on the spray nozzles are to be no finer than 50-mesh.
- The spray system pump is to have sufficient capacity to deliver 35-40 psi of pressure to the nozzles, and recirculate at least 10% of the tank volume per minute to maintain a uniform mixture.
- Agitate the spray mixture with a jet agitator or liquid sparge tube.
- Do not use air sparge.

Consult manufacturers of spray equipment for more information on sprayer use, calibration, and recommendations. Consult state agricultural extension recommendations for local directions and spray schedules.

Unless otherwise directed by registered supplemental labeling, follow the Directions for Use in each crop group section.

Application Rate Summary Table				
Vol Product/A	Units	lb metalaxyl/A	Treated Acres per Gallon Product	Treated Acres per 2.5 Gallon Jug of Product
11.0	fl oz	0.24	11.6	29.1
11.4	fl oz	0.25	11.2	28.1
17.1	fl oz	0.375	7.5	18.7
18.3	fl oz	0.40	7.0	17.5

(continued)

Application Rate Summary Table				
Vol Product/A	Units	lb metalaxyl/A	Treated Acres per Gallon Product	Treated Acres per 2.5 Gallon Jug of Product
22.9	fl oz	0.50	5.6	14.0
0.71	quart	0.50	5.6	14.1
0.89	quart	0.625	4.5	11.2
31.5	fl oz	0.69	4.1	10.2
34.3	fl oz	0.75	3.7	9.3
45.7	fl oz	1.0	2.8	7.0
1.4	quart	1.0	2.9	7.1
57.1	fl oz	1.25	2.2	5.6
0.6	gallon	1.7	1.7	4.2
2.5	quart	1.75	1.6	4.0
2.9	quart	2.0	1.4	3.4
2.9	quart	2.0	1.4	3.4
3.4	quart	2.4	1.2	2.9
0.9	gallon	2.5	1.1	2.8
4.3	quart	3.0	0.9	2.3
1.2	gallon	3.4	0.8	2.1
5.0	quart	3.5	0.8	2.0
1.3	gallon	3.6	0.8	1.9
5.7	quart	4.0	0.7	1.8
1.5	gallon	4.2	0.7	1.7
7.1	quart	5.0	0.6	1.4
7.5	quart	5.25	0.5	1.3
8.6	quart	6.0	0.5	1.2
2.43	gallon	6.8	0.4	1.0
2.5	gallon	7.0	0.4	1.0
10.3	quart	7.2	0.4	1.0
11.4	quart	8.0	0.4	0.9
3.57	gallon	10.0	0.3	0.7
4.3	gallon	12.0	0.2	0.6
4.4	gallon	12.3	0.2	0.6

Mixing Instructions

Solo Xyler FC Application

- Determine the required volume of water or liquid fertilizer for application and fill the spray/mixing tank with ½ - ¾ of this volume.
- Begin agitation of the tank and add the required volume of Xyler FC for the application. While pouring, avoid direct contact of Xyler FC with the mix tank wall to achieve the best dispersion.
- Continue agitation while adding the remaining ½ - ⅓ volume of water or liquid fertilizer to complete the spray mixture.
- Apply the mixture after the contents of the tank are completely dispersed.
- Best practice is to maintain agitation of the spray tank until all of the spray mixture has been applied.
- Thoroughly rinse spray tank with water and dispose of the rinse water by spraying onto a section of the already treated crop.

Xyler FC Tank Mixture Application

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.

Xyler FC may be applied in tank mixtures with adjuvants, micronutrients, and other products approved for use on registered crops. Jar tests (or other similar methods) to ensure compatibility between products should be conducted before use.

Xyler FC must not be combined in the spray tank with pesticides, adjuvants or fertilizers unless compatibility charts or your own prior use has shown that the combination is physically compatible, and the combination is effective and non-injurious to the target crop under your use conditions. Consult your local crop consultant or Vive Crop Protection representative for recommendations on tank mixtures suitable for your crop and region.

When an adjuvant is used, it is recommended to use an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification.

Tank Mixture Order of Addition Recommendation

This is the general recommendation for order of addition. Always follow any specific order of addition instructions on all the tank-mix partner labels. Jar tests (or other similar methods) to ensure order of addition compatibility between products should be conducted before use.

1. Fill tank $\frac{1}{3}$ to $\frac{1}{2}$ full with mixing diluent (water, liquid fertilizer, etc.).
2. Begin tank agitation before adding any tank-mix partners.
3. Add any water conditioner/anti-foam/compatibility agents.
4. Add any products packaged in water-soluble packaging and allow to completely dissolve/disperse.
5. Add any wettable powders/flowables (DC, DS, GR, SG, SP).
6. Add any microencapsulated suspensions (ME).
7. Add any liquids and solubles (SC, SU), including Xyler FC.
8. Add any emulsifiable concentrates (EC).
9. Add any adjuvants.

Jar Test Procedure

Test potential mixing partners, including adjuvants, for mixing compatibility using a standard jar test or other similar method and for crop safety prior to use on a crop.

The following jar test procedure is recommended to evaluate compatibility: Following any product specific instructions for order of addition, pour the recommended proportions of the products into a suitable container, mix thoroughly, and allow to stand at least twenty (20) minutes. If the combination remains mixed, or can be re-mixed readily, the mixture is considered physically compatible. If the combination does not remain mixed, or cannot be re-mixed readily, the products are not physically compatible and should not be tank-mixed together.

Instructions for Soil Applications

At-Plant Linear Application Instructions

Apply Xyler FC as an in-furrow spray in 3-7 gallons of finished spray per acre, unless otherwise specified.

Consult the table below to determine equivalent per acre application rates based on the linear application rates specified in the Specific Use Directions for Crop Plants section.

At Plant In-Furrow Application Rates (fl oz per acre)					
Row Spacing	Row ft per Acre	0.21 fl oz per 1000 row feet	0.43 fl oz per 1000 row feet	0.79 fl oz per 1000 row feet	1.20 fl oz per 1000 row feet
20	26136	5.5	11.2	20.6	31.4
22	23760	5.0	10.2	18.8	28.5
24	21780	4.6	9.4	17.2	26.1
26	20105	4.2	8.6	15.9	24.1
28	18669	3.9	8.0	14.7	22.4
30	17424	3.7	7.5	13.8	20.9
32	16335	3.4	7.0	12.9	19.6
34	15374	3.2	6.6	12.1	18.4
36	14520	3.0	6.2	11.5	17.4
38	13756	2.9	5.9	10.9	16.5
40	13068	2.7	5.6	10.3	15.7
Linear Row Feet Calculation: $522,720 \div \text{row spacing (in inches)} = \text{Row feet per acre}$					

Ground Application Instructions

Apply Xyler FC in 20 gallons of finished spray per acre, unless otherwise specified.

Banded Application Instructions

When banded applications are used, the treated area will be less than the total planted area and the application rate of Xyler FC will be proportionately less. Use the following formula to calculate the amount of product needed per acre when banded applications are made.

Band Width (inches) / Row Spacing (inches) x Broadcast Rate (fl oz/A) = Banded Application Rate (fl oz/A)

Chemigation Use Directions

- Apply this product only through sprinklers including center pivot, solid set, hand move, moving wheel, micro-sprinkler, pressurized drench (flood) or drip (trickle), wheel-irrigation and spaghetti-tube or individual tube irrigation, hand-held calibrated irrigation equipment such as the hand-held wand with injector, calibrated overhead watering booms, ebb and flow or bench flooding sub-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.
- Follow rates and application timings given in the specific crop instructions.
- The chemical supply tank and injector system should be thoroughly cleaned and flushed with clean water.
- Do not apply at less than 15 parts water or liquid fertilizer diluent to 1 part Xyler FC tank mix to avoid the potential to deteriorate valves and seals. Leather seals are the most resistant. EPDM or silicone rubber may be used but should be replaced once a year. Do not use Vitron, Buna-N, Neoprene or PVC seals.

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 inter-locking 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 for treatment.

Specific Instructions for Public Water Systems

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

Center Irrigation Equipment

- Use only with drive systems which provide uniform water distribution. Determine the size of the area to be treated.
- Determine the time required to apply 1/2 to 1 inch of water over the area to be treated when the system and injection equipment are operated at normal pressures recommended by the equipment manufacturer.
- Run the system at 80 to 95% of the manufacturer's rated capacity. Using water, determine the injection pump output when operated at normal line pressure.
- Determine the amount this product required to treat the area covered by the irrigation system. Add the required amount of this product and sufficient water to the solution (mix) tank to meet the injection time requirements.
- Maintain constant solution tank agitation during the injection period. Continue to operate the system until all of the product solution has cleared the most distant 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.
- Determine the amount of this product required to treat the area covered by the irrigation system. Add the required amount of this product 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.
- Inject this product at the end of the irrigation cycle in 1/2 to 1 inch of water or as separate application to maximize the effectiveness of the fungicide.
- Stop injection equipment after treatment is completed.
- Continue to operate the system until all of the product solution has cleared the last sprinkler head.

Micro Sprinkler, Drip Irrigation Systems, Overhead Watering Booms

- Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters in the system are putting out the same amount of water.
- Only pressure injection or venturi equipment is recommended.
- Determine the area to be treated in each irrigation run.
- Measure the output of each of the emitters or drip tubes closest to and farthest from the injector site. For calibration, substitute a concentrated detergent (such as Wisk) or a soluble fertilizer for the product in the injector tank. The detergent will bubble as it leaves the emitters. The time period over which bubbles occur should be checked for both the closest and farthest emitters. If these times are not within 2 minutes of each other, adjust the dilution ratio and/or the injection rate. If a soluble fertilizer is used, measure the time intervals with a salt bridge.
- If a drip system is being calibrated, substitute soluble fertilizer for the product in the injector and measure the time intervals with a salt bridge.

Calibration Procedure

- Before starting to calibrate, operate the system until all the emitters are putting out equal flow rates or until the system is operating at full pressure.
- Make up an indicator solution of detergent or fertilizer, using the same ratio to be used when mixing this product.
- Set the injector to apply the indicator solution at the injection rate to be used in the actual product application.

- Attach a 5-inch length of flexible tubing over the emitter closest to the injection point, another length over the emitter farthest away. Both emitters should be monitored to determine the time intervals that the indicator solutions are observed.
- Begin injecting the indicator solution. Direct the flow from the tubes at the emitters into a small container.
- Begin timing when the indicator solution is first detected, stop timing when the indicator solutions are no longer detected.
- If the period of detection of the indicator solution between the 2 emitters is within 2 minutes of each other, comparable coverage will be obtained. If they are not, make adjustments by increasing the dilution ratio, using more water per part of this product, or adjust the injector to a slower flow rate.
- Once the system is calibrated, dilute the needed amount of this product with water using a minimum of 10 part of water to 1 part this product.
- Do not begin to inject this product into the system until all emitters are producing equal flow rates, or until the system is at full pressure.
- Inject this product into the system at the end of the irrigation set in 1/2 to 1 inch of irrigation water.

RESISTANCE MANAGEMENT RECOMMENDATIONS

METALAXYL	GROUP	4	FUNGICIDE
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For resistance management, Xylar FC contains a Group 4 fungicide. Any fungal population may contain individuals naturally resistant to Xylar FC and other Group 4 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

- To delay fungicide resistance, take one or more of the following steps:
 - Rotate the use of Xylar FC or other Group 4 fungicides within a growing season sequence with different groups that control the same pathogens.
 - Use tank mixtures with fungicide 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 Vive Crop Protection at 1-888-760-0187. You can also contact your pesticide distributor or university extension specialist to report resistance.

SPECIFIC USE DIRECTIONS FOR FOOD CROPS

ALFALFA (Including birdsfoot trefoil)

Diseases	USE RATES	
	fl oz product/A (lb a.i./A)	
Damping-Off (<i>Pythium</i> spp.) Root Rot (<i>Phytophthora</i> spp.)	11.4 – 22.9 (0.25 - 0.50)	
Soil Surface Application Instructions		
<ul style="list-style-type: none"> • Broadcast as a soil application at planting in a minimum of 20 gallons of spray volume. • For inter-seeding alfalfa into existing stands, use 11.4 fl oz of Xylar FC per acre. • For metalaxyl or mefenoxam-treated seed, use 11.4 fl oz of Xylar FC per acre. • If conditions favor the development of disease, use 22.9 fl oz of Xylar FC per acre. 		
Specific Use Restrictions		
<ul style="list-style-type: none"> • Maximum Single Application: Do not apply more than 22.9 fl oz/A (0.50 lb a.i./A). • Annual Maximum: <ul style="list-style-type: none"> • Do not exceed 22.9 fl oz of Xylar FC (0.50 lb a.i.) per acre per year. • Do not apply more than 1 application per year at the high rate of 22.9 fl oz/A. • Application Interval: N/A. • Pre-Harvest Interval (PHI): Do not feed green forage or cut hay for 60 days following application. 		

APPLE (Bearing and Nonbearing Trees)

Diseases	USE RATES	
	Soil Surface	Soil Drench
	quarts product/A (lb a.i./A)	fl oz product/ 100 gallons (lb a.i./100 gallons)
Crown Rot Collar Rot Root Rot (<i>Phytophthora</i> spp.)	5.7 (4.0)	22.9 (0.50)
<ul style="list-style-type: none"> • Apply Xylar FC prior to the appearance of disease symptoms, especially under conditions favorable for disease development. Xylar FC will not revitalize trees already showing moderate to severe disease symptoms. • To aid in disease control, use Xylar FC in conjunction with good cultural practices and disease-resistant rootstock. 		
Soil Surface Application Instructions		
<ul style="list-style-type: none"> • Broadcast or band as a soil application with sufficient spray volume to obtain thorough coverage. • Treated area is based on the area under the tree canopy or the area of the sprayed row. • Rainfall or irrigation is required to move Xylar FC into the root zone for disease control. • Apply Xylar FC in early spring prior to new growth and/or in the fall after harvest but before the ground freezes. 		
Soil Drench Application Instructions		
<ul style="list-style-type: none"> • Apply the appropriate volume of diluted Xylar FC (see table below) around the base of each tree based on trunk diameter 12" above the soil line. • Applications should be made in early spring prior to new growth and/or in the fall after harvest but before the ground freezes. • New Plantings: Apply 2 weeks after planting. 		

APPLE (continued)

Trunk diameter 12" above the soil line	Pints diluted mixture per tree
< 1"	1
1 – 3"	2
3 – 5"	3
>5 "	4

Specific Use Restrictions

- Do not dip roots of trees in or spray bare roots with solutions containing Xyler FC.
- Maximum Single Application:** Do not apply more than 5.7 quarts/A (4.0 lb a.i./A) as a soil surface spray.
- Annual Maximum:**
 - Do not exceed 11.4 quarts of Xyler FC (8.0 lb a.i.) per acre per year.
 - Do not apply more than 2 applications per year at the high rate of 5.7 quarts/A.
- Application Interval:** Apply Xyler FC in early spring prior to new growth and/or in the fall after harvest but before the ground freezes
- Pre-Harvest Interval (PHI):** N/A.
- Do not graze or feed cover crops in treated orchards.

ASPARAGUS

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Crown Rot	1.4
Spears Rot (<i>Phytophthora</i> spp.)	(1.0)

Soil Surface Application Instructions

- Broadcast as a soil application in a minimum of 10 gallons of spray volume over the beds.
- Cutting Beds:** Applications should be made 30 to 60 days prior to first cutting. Under conditions favorable for disease, make a second application just prior to the first cutting.
- New Plantings:** Apply after planting or after covering one-year old crowns.

Specific Use Restrictions

- Maximum Single Application:** Do not apply more than 1.4 quarts/A (1.0 lb a.i./A).
- Annual Maximum:**
 - Do not exceed 5.7 quarts of Xyler FC (4.0 lb a.i.) per acre per year.
 - Do not apply more than 4 applications per year at the high rate of 1.4 quarts/A.
- Application Interval:** Under conditions favorable for disease, make a second application just prior to the first cutting.
- Pre-Harvest Interval (PHI):** 1 day.

AVOCADO

DISEASES	USE RATES	
	Sleeve Drench	Irrigation
	fl oz product/ 18 gallons (lb a.i./18 gallons)	fl oz product/ 1000 gallons (lb a.i./1000 gallons)
Root Rot (<i>Phytophthora</i> spp.)	0.73 (0.016)	1.4 – 2.9 (0.031 – 0.063) Or Specified amount per tree (See table below)

(continued)

AVOCADO (continued)

- For best results make applications as soon as soil tests indicate the presence of *Phytophthora*.
- Application during the winter months of November through February are not needed.

Sleeve Drench Application Instructions

- Dilute Xyler FC at 0.73 fl oz per 18 gallons of sleeve drench solution required.
- Apply 1 quart of diluted solution per tree as a drench to the roots inside the sleeve.
- Sleeve drench application will not replace the soil surface applications for long-term control of root rot.

Sprinkler or Drip Irrigation Application Instructions

- Apply as a soil surface spray under the tree canopy in sufficient spray solution for uniform coverage. See the table below for the required amount per tree based on the tree canopy size. Begin applications at the start of the growing season or transplanting and continue at 3-month intervals.
- Apply as a drip irrigation soil application at the specified rate under the emitter for each tree based on tree canopy diameter as per the table below. If there are multiple emitters per tree, divide the total amount of product required amongst all emitters for each tree.

Irrigation Water Injection Application Instructions

- Apply as an irrigation application by injecting into the irrigation water at a rate of 1.4 – 2.9 fl oz Xyler FC per 1000 gallons of irrigation water at each irrigation event.
- If application is not being made at each irrigation event, use the application rates found in the table below which depend on the diameter of the tree canopy.
- If applications occur more frequently than once every 3 months, adjust the rate at each application to ensure that the total application rate is not exceeded over a 3-month time period.

Diameter of Tree Canopy (ft)	fl oz product/10 trees per 3 months
2	0.37 – 0.73
5	2.3 – 4.1
10	9 – 18
15 or Wider	23 – 41

Precautions:

- Phytophthora* resistant rootstock is recommended for new plantings.
- Mature trees with moderate or advanced states of decline cannot be cured with Xyler FC.

Specific Use Restrictions

- Maximum Single Application:** Do not apply more than 0.73 fl oz (0.016 lb a.i.) per 18 gallons of sleeve drench solution or 2.9 fl oz (0.063 lb a.i.) per 1000 gallons of irrigation spray.
- Annual Maximum:**
 - Do not exceed 4.3 gallons of Xyler FC (12.0 lb a.i.) per acre per year.
- Application Interval:** Make applications once every 3 months. If applications occur more frequently than once every 3 months, adjust the rate at each application to ensure that the total application rate is not exceeded over a 3-month time period.
- Pre-Harvest Interval (PHI):** 28 days.

BLUEBERRIES

Diseases	USE RATES		
	Established Plantings		New Plantings
Root Rot (<i>Phytophthora</i> spp.)	gal product/A (lb a.i./A)	fl oz product/ 1000 row ft (lb a.i./1000 row ft)	quarts product/A (lb a.i./A)
	1.3 (3.6)	11.4 (0.25)	5.7 (4.0)
<ul style="list-style-type: none"> Use Xylar FC in conjunction with good cultural practices to minimize disease pressure. Apply Xylar FC prior to the appearance of disease symptoms, especially under conditions favorable for disease development. Xylar FC will not revitalize plants already showing moderate to severe disease symptoms. 			
Soil Surface Application Instructions			
<ul style="list-style-type: none"> Established plantings <ul style="list-style-type: none"> Apply as a banded application over the row in the spring ahead of plant growth. For banded applications, a 3-foot band is recommended. See the Banded Application Instructions section for more information and the banded application calculation. 1 additional application may be made when conditions favor the development of disease. New plantings <ul style="list-style-type: none"> Broadcast as a soil application prior to planting with sufficient spray volume to ensure uniform coverage. For banded applications, an 18-inch band is recommended. See the Banded Application Instructions section for more information and the banded application calculation. An additional applications may be made when conditions favor the development of disease. 			
Specific Use Restrictions			
<ul style="list-style-type: none"> Maximum Single Application: Do not apply more than 1.3 gallons/A (3.6 lb a.i./A) for established plantings or 5.7 quarts/A (4.0 lb a.i./A) for new plantings. Annual Maximum: <ul style="list-style-type: none"> Do not exceed 10.3 quarts of Xylar FC (7.2 lb a.i.) per acre per year. Do not apply more than 2 applications per year at the high rate of 1.3 gallons/A. Application Interval: N/A. Pre-Harvest Interval (PHI): 0 days. 			

CITRUS

Calamondin; citrus citron; citrus hybrids (includes chironja, tangelo, tangor); grapefruit; kumquat; lemon; lime; mandarin (tangerine); orange, sour; orange, sweet; pummelo; Satsuma mandarin (Nurseries, New Plantings, Resets, and Established Plantings - AZ, CA, FL, and PR only)

Nursery Diseases (AZ, CA, FL, PR Only)	USE RATES	
	Soil Drench	Soil Surface Spray
Brown Rot (<i>Phytophthora</i> spp.) Citrus Foot Rot (<i>Phytophthora</i> spp.) Root Rot (<i>Phytophthora</i> spp.) Trunk Canker (<i>Phytophthora</i> spp.)	fl oz product/ 100 gallons (lb a.i./100 gallons)	quarts product/A (lb a.i./A)
	2.9 – 4.1 (0.063 – 0.09)	2.9 – 5.7 (2.0 – 4.0)

(continued)

CITRUS (continued)

Nursery Soil Drench Application Instructions

- Apply per 100 gallons of water or fertilizer mixture as a soil drench over the row at a rate of 100 to 250 gallons per 1,000 feet of row. Ensure that the drench treatment is wide enough to cover the root systems of the plants.
- Follow soil drench applications with 0.5 to 1-inch irrigation over the treated area.

Nursery Soil Surface Application Instructions

- Broadcast or band as a soil surface spray to seedbeds, liners, or bedded stock in sufficient water to obtain thorough coverage.
- For banded applications, ensure that the band width covers the root systems of the plants.
- Follow soil surface applications with 0.5 to 1-inch irrigation over the treated area

Nursery Use Restrictions

- Do not use for disease control in greenhouse nurseries.
- Do not apply to bare roots.

Resets and New Plantings Diseases (AZ, CA, FL, PR Only)	USE RATES	
	Water Ring Drench	Soil Surface Spray
Brown Rot (<i>Phytophthora</i> spp.) Citrus Foot Rot (<i>Phytophthora</i> spp.) Root Rot (<i>Phytophthora</i> spp.) Trunk Canker (<i>Phytophthora</i> spp.)	fl oz product/ 100 gallons (lb a.i./100 gallons)	quarts product/A (lb a.i./A)
	2.9 – 4.1 (0.063 – 0.09)	Arizona and California: 2.9 – 5.7 (2.0 – 4.0) Florida and Puerto Rico: 2.9 (2.0)

Make the first application to citrus resets or new planting at the time of transplanting and follow-up with up to 3 additional applications per year at 3-month intervals or when root growth flushes occur.

New Planting or Resets Water Ring Drench Application Instructions

- Mix per 100 gallons of water or fertilizer dilution and apply 5 gallons around the base of each tree within the watering ring.

New Plantings or Resets Soil Surface Application Instructions (Arizona and California)

- Broadcast as a soil application with sufficient spray volume to ensure uniform coverage of the soil surface.
- Follow soil surface applications with 0.5 to 1-inch irrigation over the treated area if rainfall is not expected within 3 days of application.

New Plantings or Resets Soil Surface Application Instructions (Florida and Puerto Rico)

- Broadcast 2.9 quarts of Xylar FC (2.0 lb a.i.) per acre as a soil application at planting with sufficient spray volume to ensure uniform coverage.
- For trees less than 5 years old, apply 22.9 fl oz of Xylar FC per grove acre through low volume irrigation.
- Two or three applications may be made per year on a seasonal schedule (e.g. spring + summer, summer + fall, spring + summer + fall).

(continued)

CITRUS *(continued)*

Established Plantings Diseases (AZ, CA, FL, PR Only)	USE RATES	
	Arizona and California	Florida
	quarts product/A (lb a.i./A)	quarts product/A (lb a.i./A)
Brown Rot (<i>Phytophthora</i> spp.) Citrus Foot Rot (<i>Phytophthora</i> spp.) Root Rot (<i>Phytophthora</i> spp.) Trunk Canker (<i>Phytophthora</i> spp.)	3 Applications per Year: 2.9 – 5.7 (2.0 – 4.0)	1.4 – 2.9 (1.0 – 2.0)
	2 Applications per Year: 8.6 (6.0)	
Established Plantings Soil Surface Application Instructions (Florida and Puerto Rico)		
<ul style="list-style-type: none"> Apply as a broadcast spray to the soil surface in sufficient water or fertilizer to obtain uniform coverage. For trees less than 5 years old, apply 22.9 fl oz of Xylar FC (0.5 lb a.i.) per grove acre through low volume irrigation. For groves with a <i>Phytophthora</i> propagule count of 10 to 20 per cubic centimeter of soil apply 1.4 quarts of Xylar FC (1.0 lb a.i.) per acre as a root rot disease management treatment. For groves with a <i>Phytophthora</i> propagule count of greater than 20 per cubic centimeter of soil apply 2.9 quarts of Xylar FC (2.0 lb a.i.) per acre for one year (2 or 3 applications) to reduce the population. Two or three applications may be made per year on a seasonal schedule (e.g. spring + summer, summer + fall, spring + summer + fall). 		
Established Plantings Soil Surface Application Instructions (Arizona and California)		
<ul style="list-style-type: none"> Start applications in the spring to coincide with root flush followed by up to 2 more applications at 3-month intervals. Proper application rates are found in the table below and depend on the diameter of the tree canopy and the number of applications planned. For applications based on broadcast rate, broadcast using the above rates as a soil application with sufficient spray volume to ensure uniform coverage or through irrigation water. 		
Diameter of Tree Canopy (ft)	fl oz product/10 trees	
	2 applications per year	3 applications per year
5	1.05	0.73
10	5.5	3.7
15	10.5	7.3
20	23	14
Trunk Diseases (AZ, CA, FL Only)	USE RATES	
	Arizona and California	Florida
	quarts product/A (lb a.i./A)	quarts product/A (lb a.i./A)
Gummosis	2.9 (2.0)	1.4 (1.0)

(continued)

CITRUS *(continued)*

Trunk Spray Application Instructions
<ul style="list-style-type: none"> Apply as a spray on the surface of the trunks in sufficient water to thoroughly wet the cankers. Make up to 3 applications per year.
Precautions
<ul style="list-style-type: none"> Use this product in combination with resistant varieties and cultural practices. Do not use on highly susceptible sweet orange rootstock in Florida. Do not apply to bare roots. When nematodes are a problem, best results can be achieved if an effective EPA-registered nematicide is used in combination or in sequence with this product.
Specific Use Restrictions
<ul style="list-style-type: none"> Do not use this product for disease control in greenhouse citrus nursery stock intended for commercial fruit production. Maximum Single Application: Do not apply more than 8.6 quarts/A (6.0 lb a.i./A). Annual Maximum: <ul style="list-style-type: none"> Do not exceed 4.3 gallons of Xylar FC (12.0 lb a.i.) per acre per year. Do not exceed 2 application per year at the high rate of 8.6 quarts/A or 3 applications per year at lower rates to established plantings. Application Interval: <ul style="list-style-type: none"> Resets and New Plantings: 3-month intervals or when root growth flushes occur. Established Plantings (Florida or Puerto Rico): Two or three applications may be made per year on a seasonal schedule (e.g. spring + summer, summer + fall, spring + summer + fall). Established Plantings (Arizona or California): Start applications in the spring to coincide with root flush followed by up to 2 more applications at 3-month intervals. Pre-Harvest Interval: N/A. Do not make trunk and soil applications to the same tree in the same cropping season.

CLOVER

Diseases	USE RATES
	fl oz product/A (lb a.i./A)
Damping-Off (<i>Pythium</i> spp.) Root Rot (<i>Phytophthora</i> spp.)	11.4 – 22.9 (0.25 – 0.50)
Soil Surface Application Instructions	
<ul style="list-style-type: none"> Broadcast as a soil application with a minimum of 20 gallons of spray volume. For metalaxyl or mefenoxam-treated seed, use 11.4 fl oz per acre rate. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Maximum Single Application: Do not apply more than 22.9 fl oz/A (0.5 lb a.i./A). Annual Maximum: <ul style="list-style-type: none"> Do not exceed 22.9 fl oz of Xylar FC (0.50 lb a.i.) per acre per year. Do not apply more than 1 application per year at the high rate of 22.9 fl oz/A. Application Interval: N/A. Pre-Harvest Interval (PHI): 90 days. Do not feed green forage or cut hay for 90 days following application. 	

COLE CROPS

Broccoli; broccoli, Chinese (gai lon); cabbage; cabbage Chinese (bok choy and napa); cauliflower

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Damping-Off (<i>Pythium</i> spp.) Basal Stem Rot (<i>Phytophthora</i> spp.)	1.4 - 2.9 (1.0 - 2.0)

PPI Application Instructions

- Broadcast as a soil application with sufficient spray volume to ensure uniform coverage.
- Mechanically incorporate into the top 2 inches of soil.
- For the control of *Pythium* damping off only, use 11.4 - 22.9 fl oz/A.

Soil Surface Application Instructions

- Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.
- If rainfall is not expected prior to germination, mechanically incorporate Xylar FC prior to planting or irrigate with 0.5 - 1.0 inch of water to move the product into the root zone.
- This product may be tank-mixed with another product labelled to control club root (*Plasmodiophora brassicae*) or wirestem/black rot.

Precautions

- Do not dip plants in solutions containing this product or crop injury may occur.
- Do not use this product as a transplant water treatment.
- Do not apply for downy mildew if the disease is already established.

Specific Use Restrictions

- Do not use this product for disease control in greenhouse crops or field grown vegetable bedding plants.
- **Maximum Single Application:** Do not apply more than 2.9 quarts/A (2.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 2.9 quarts of Xylar FC (2.0 lb a.i.) per acre per year for soil applications and the equivalent of 1 lb metalaxyl per acre per year from any foliar-applied metalaxyl products.
 - Do not apply more than 1 application per year at the high rate of 2.9 quarts/A.
- **Application Interval:** N/A.
- **Pre-Harvest Interval (PHI):** 7 days.

COTTON

Diseases	USE RATES
	fl oz product/1000 row ft. (lb a.i./1000 row ft.)
Seed and Root Rots (<i>Pythium</i> spp.)	0.21 - 0.43 (0.0046 - 0.0094)
Seedling Diseases and Seed Rots (<i>Phytophthora</i> spp.)	

In-Furrow Application Instructions

- Apply in-furrow with sufficient spray volume to ensure uniform coverage of the row.
- Direct the spray in the furrow, over the seed and adjacent soil, just before the seed is covered.
- In areas with a history of *Rhizoctonia*, apply this product with AZteroid FC 3.3.

(continued)

COTTON (continued)

Specific Use Restrictions

- **Maximum Single Application:** Do not apply more than 0.43 fl oz/1000 row ft (0.0094 lb a.i./1000 row ft).
- **Annual Maximum:**
 - Do not exceed 11.0 fl oz of Xylar FC (0.24 lb a.i.) per acre per year.
 - Do not apply more than 1 application during planting.
- **Application Interval:** N/A.
- **Pre-Harvest Interval (PHI):** N/A.

CRANBERRIES

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Phytophthora Root Rot (<i>Phytophthora</i> spp.)	1.4 - 2.5 (1.0 - 1.75)

Soil Surface Application Instructions

- Broadcast as a soil application using ground equipment in a minimum of 20 gallons of spray volume or by chemigation equipment.
- Apply Xylar FC 3 times per year; once in the fall after harvest, again in the spring, followed by another application at least 45 days before harvest.

Specific Use Restrictions

- Do not apply this product to cranberries by air.
- **Maximum Single Application:** Do not apply more than 2.5 quarts/A (1.75 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 7.5 quarts of Xylar FC (5.25 lb a.i.) per acre per year.
 - Do not exceed 3 applications per crop season.
- **Application Interval:** Once in the fall after harvest, again in the spring, followed by another application at least 45 days before harvest.
- **Pre-Harvest Interval (PHI):** 45 days.

CUCURBIT VEGETABLES CROP GROUP 9

Chayote (fruit); Chinese waxgourd (Chinese preserving melon); citron melon; cucumber; gherkin; gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); Momordica spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber); muskmelon (includes true canteloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon and snake melon); pumpkin; squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon

Diseases	USE RATES
	fl oz product/A (lb a.i./A)
Damping-Off (<i>Pythium</i> spp.)	45.7 - 91 (1.0 - 2.0)
Root Rot (<i>Pythium</i> spp.)	11.4 - 18.3 (0.25 - 0.40)

PPI Application Instructions

- Broadcast as a soil application with sufficient spray volume to ensure uniform coverage.
- Mechanically incorporate into the top 2 inches of soil.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.

(continued)

CUCURBIT VEGETABLES CROP GROUP 9

(continued)

Soil Surface Application Instructions	
<ul style="list-style-type: none"> Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage. For banded applications, a 7-inch band is recommended. See the Banded Application Instructions section for more information and the banded application calculation. If rainfall is not expected prior to germination, mechanically incorporate Xylar FC prior to planting or irrigate with 0.5 - 1.0 inch of water to move the product into the root zone. 	
Precautions	
<ul style="list-style-type: none"> Do not dip plants in solutions containing this product or crop injury may occur. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Do not use this product for disease control in greenhouse crops or on field-grown vegetable bedding plants. Maximum Single Application: Do not apply more than 91 fl oz/A (2.0 lb a.i./A). Annual Maximum: <ul style="list-style-type: none"> Do not exceed 91 fl oz of Xylar FC (2.0 lb a.i.) per acre per year for soil applications and the equivalent of 1.0 lb metalaxyl per acre per year from any foliar-applied metalaxyl products. Do not apply more than 1 application per year at the high rate of 91 fl oz/A for soil applications. Application Interval: N/A. Pre-Harvest Interval (PHI): 5 days. 	

GINSENG

Diseases	USE RATES
	fl oz product/A (lb a.i./A)
Phytophthora Root Rot (<i>Phytophthora cactorum</i>)	34.3 (0.75)
Soil Surface Application Instructions	
<ul style="list-style-type: none"> Broadcast as a soil application in 100 - 400 gallons per acre of spray volume. Apply in the spring prior to new plant growth. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Maximum Single Application: Do not apply more than 34.3 fl oz/A (0.75 lb a.i./A). Annual Maximum: <ul style="list-style-type: none"> Do not exceed 34.3 fl oz of Xylar FC (0.75 lb a.i.) per acre per year. Do not apply more than 1 application per year. Application Interval: N/A. Pre-Harvest Interval (PHI): N/A. 	

GRASSES

Any grass, Graminae family (either green or cured), except the following. **RESTRICTION:** Do not apply to sugarcane; do not apply to any of the following that will be fed or grazed by livestock: barley, buckwheat, corn, millet (pearl or proso), oats, popcorn, rice, rye, sorghum, teosinte, triticale, wheat, or wild rice; do not apply to any enclosed pasture grasses or grasses grown for hay or silage such as bermudagrass, bluegrass, brome grass, or fescue.

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Seedling Diseases (<i>Pythium</i> spp.)	1.4 (1.0)

(continued)

GRASSES (continued)

Soil Surface Application Instructions	
<ul style="list-style-type: none"> Broadcast as a soil application at-planting in a minimum of 20 gallons per acre of spray volume. For metalaxyl or mefenoxam-treated seed, use 11.4 - 22.9 fl oz of Xylar FC per acre. In areas with a history of <i>Pythium</i> disease, use the higher rate of Xylar FC. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Do not apply to range grasses. Maximum Single Application: Do not apply more than 1.4 quarts/A (1.0 lb a.i./A). Annual Maximum: <ul style="list-style-type: none"> Do not exceed 1.4 quarts of Xylar FC (1.0 lb a.i.) per acre per year. Do not apply more than 1 application per year. Application Interval: N/A. Pre-Harvest Interval: Do not graze, feed green forage, or cut for hay within 60 days of last application. 	

HOPS

Diseases	USE RATES
	fl oz product/A (lb a.i./A)
Downy Mildew (<i>Pseudoperonospora humuli</i>)	22.9 (0.50)
Soil Surface Application Instructions	
<ul style="list-style-type: none"> Broadcast as a soil application over the crowns after pruning but before training in a minimum of 20 gallons per acre of spray volume. For best results, apply before shoots reach 6 inches in length. 	
Foliar Spray Application Instructions	
<ul style="list-style-type: none"> Apply Xylar FC in combination with a copper fungicide as a foliar spray in a minimum of 50 gallons of spray volume per acre by ground when primary infection of spikes persists after a soil drench and/or secondary infection of foliage occurs. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Do not apply foliar sprays of this product without a copper fungicide registered for use on hops. Maximum Single Application: Do not apply more than 22.9 fl oz/A (0.50 lb a.i./A). Annual Maximum: <ul style="list-style-type: none"> Do not exceed 22.9 fl oz of Xylar FC (0.50 lb a.i.) per acre per year for soil applications and 45.8 fl oz of Xylar FC (1.0 lb a.i.) per acre per year as foliar applications. Do not apply more than 3 applications per season. Application Interval: N/A. Pre-Harvest Interval (PHI): 45 days. 	

LEAFY VEGETABLES

Celery; cress (upland); endive (escarole); Florence fennel (finocchio), parsley, rhubarb, spinach, Swiss chard

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Damping-Off (<i>Pythium</i> spp.) (<i>Pythium</i> spp.)	1.4 - 2.9 (1.0 - 2.0)
Spinach Only: White Rust (<i>Albugo occidentalis</i>) ¹ Downy Mildew (<i>Peronospora farinosa</i> f.sp. <i>spinaciae</i>) ²	fl oz product/A (lb a.i./A) 11.4 (0.25)

(continued)

LEAFY VEGETABLES *(continued)*

PPI Application Instructions

- Broadcast as a soil application with sufficient spray volume to ensure uniform coverage.
- Mechanically incorporate into the top 2 inches of soil.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.

Soil Surface Application Instructions

- Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.
- If rainfall is not expected prior to germination, mechanically incorporate Xylar FC prior to planting or irrigate with 0.5 - 1.0 inch of water to move the product into the root zone.

Specific Disease Instructions

- White rust (*Albugo occidentalis*) and 2Downy mildew (*Peronospora farinosa* f.sp. *spinaciae*)
 - Only for use on spinach.
 - In addition to a PPI or soil broadcast application, apply Xylar FC as a soil application shanked into the soil 21 days after planting or after the first cutting with water or liquid fertilizer. One follow-up application may be made after the next cutting.
 - White rust may only be controlled preventatively through a season-long management program; do not make foliar applications of if Xylar FC was not used at-plant.
 - Attempting to use Xylar FC in a curative manner when white rust is already established greatly increases the risk of fungicide resistance to metalaxyl/mefenoxam products.

Specific Use Restrictions

- Do not use this product for disease control in greenhouse crops.
- Do not use this product for foliar applications if it was not also used at-plant.
- Do not apply this product in fields where downy mildew is already established.
- Do not use this product as a transplant water treatment.
- **Maximum Single Application:** Do not apply more than 2.9 quarts/A (2.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 2.9 quarts of Xylar FC (2.0 lb a.i.) per acre per year for soil applications and the equivalent of 0.5 lb metalaxyl per year from any foliar-applied metalaxyl products.
 - Do not exceed 2.8 lb metalaxyl per acre per year from all metalaxyl containing products.
 - **Leafy Vegetables (Except Spinach):** Do not apply more than 1 application per year at the high rate of 2.9 quarts/A.
 - **Spinach:** Do not apply more than 3 application per year.
- **Application Interval (Spinach):** 21 days after planting or after the first cutting with a follow-up application after the next cutting.
- **Pre-Harvest Interval (PHI):**
 - **Spinach:** 21 days.
 - **Other Crops:** 7 days.

LEGUME VEGETABLES (SUCCULENT OR DRIED) CROP GROUP 6 (EXCEPT SOYBEAN)

Bean (*Lupinus* spp.) (grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (*Phaseolus* spp.) (field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (*Vigna* spp.) (adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean ; chickpea; guar; jackbean; lablab bean; lentil; pea (*Pisum* spp.) (dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea); pigeon pea; soybean (immature seed); sword bean; all cultivars, varieties and/or hybrids of these. (See SOYBEANS for additional directions)

Diseases	USE RATES
	fl oz product/A (lb a.i./A)
Damping Off and Root Rot (<i>Pythium</i> spp.)	22.9 - 45.7 (0.50 - 1.0)

PPI Application Instructions

- Broadcast as a soil application prior to planting with sufficient spray volume to ensure uniform coverage.
- Mechanically incorporate into the top 2 inches of soil.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** for more information and the banded application formula.

Soil Surface Application Instructions

- Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.
- If rainfall is not expected before seed germination starts, Xylar FC should be moved into the seed zone after planting with 0.5 to 1 inch of irrigation.

Specific Use Restrictions

- Do not use for disease control in greenhouse or field grown vegetable bedding plants.
- **Maximum Single Application:** Do not apply more than 45.7 fl oz/A (1.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 45.7 fl oz of Xylar FC (1.0 lb a.i.) per acre per year.
 - Do not apply more than 1 application per year at the high rate of 45.7 fl oz/A.
- **Application Interval:** N/A.
- **Pre-Harvest Interval (PHI):** N/A.

ONIONS

Dry Bulb: garlic; onion, dry bulb; shallots (dry bulb)

Green: green onions; spring onions; scallions; Japanese bunching onions; green shallots; green eschalots; leeks

Diseases	USE RATES
	fl oz product/A (lb a.i./A)
Damping Off and Root Rot (<i>Pythium</i> spp.)	22.9 - 45.7 (0.50 - 1.0)

(continued)

ONIONS *(continued)*

PPI Application Instructions

- Broadcast as a soil application prior to planting with sufficient spray volume to ensure uniform coverage.
- Mechanically incorporate into the top 2 inches of soil.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** for more information and the banded application formula.

Soil Surface Application Instructions

- Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.
- If rainfall is not expected before seed germination starts, Xyler FC should be moved into the seed zone after planting with 0.5 to 1 inch of irrigation.

Specific Use Restrictions

- Do not use for disease control in greenhouse or field grown vegetable bedding plants.
- **Maximum Single Application:** Do not apply more than 45.7 fl oz/A (1.0 lb a.i./A).
- **Annual Maximum:**
 - **Bulb Onions:** do not exceed 45.7 fl oz of Xyler FC (1.0 lb a.i.) per acre per year for soil applications and the equivalent of 1.0 lb metalaxyl per acre per year from any foliar-applied metalaxyl product.
 - **Green Onions:** do not exceed 45.7 fl oz of Xyler FC (1.0 lb a.i.) per acre per year for soil applications and the equivalent of 0.6 lb metalaxyl per acre per year from any foliar-applied metalaxyl product.
 - Do not apply more than 1 application per year at the high rate of 45.7 fl oz/A.
- **Application Interval:** N/A.
- **Pre-Harvest Interval (PHI):** N/A.

PAPAYA (Hawaii only)

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Phytophthora Root Rot (<i>Phytophthora</i> spp.)	2.5 – 5.0 (1.75 – 3.5)

New Plantings Soil Surface Application Instructions

- Broadcast as a soil application at-plant or within 1 week of transplanting with sufficient spray volume to ensure uniform coverage under the canopy.
- Immediately after application, irrigate with 0.125 - 0.25-inch of water to move the product into the root zone
- Apply 1 follow-up applications 2 - 4 weeks later if conditions favor the development of disease.
- For treating individual trees use the table below to determine application rates.

Diameter of Tree Canopy (ft)	fl oz product/10 trees
3	0.14 – 0.27
4	0.27 – 0.59
6	0.59 – 1.05
8	0.9 – 1.8

(continued)

PAPAYA *(continued)*

Specific Use Restrictions

- **Maximum Single Application:** Do not apply more than 5.0 quarts/A (3.5 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 2.5 gallons of Xyler FC (7.0 lb a.i.) per acre per year.
 - Do not make more than 2 applications per year in the fields to newly transplanted stock.
- **Application Interval:** 2 weeks.
- **Pre-Harvest Interval (PHI):** 3 months.

PEANUT

Diseases	USE RATES
	fl oz product/A (lb a.i./A)
Seedling Disease (<i>Pythium</i> spp.)	11.4 (0.25)

At-Plant Application Instructions

- Apply in-furrow with sufficient spray volume to ensure uniform coverage of the row.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.
- Position the spray to be mixed with the soil covering the seed. Crop injury may occur if the seed is sprayed directly.

Pod Disease (<i>Pythium</i> spp.)	22.9 - 45.7 (0.50 - 1.0)
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Specific Disease Instructions

- **Pod Rot (*Pythium* spp.):** Apply as a soil-directed spray at early pod set or at pegging through overhead irrigation.

Precautions:

- Use fungicides labelled for control in combination with Xyler FC when pathogens other than *Pythium* spp. are present
- When the predominant pod rot pathogens present are *Pythium* spp. along with *Rhizoctonia* spp. it is recommended that Xyler FC is tank mixed with AZteroid FC 3.3 for control of *Rhizoctonia* spp.

Specific Use Restrictions

- **Maximum Single Application:** Do not apply more than 45.7 fl oz/A (1.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 57.1 fl oz of Xyler FC (1.25 lb a.i.) per acre per year.
 - Do not apply more than 1 application during planting at 11.4 fl oz/A followed by up to 1 application at the high rate of 45.7 fl oz/A during early pod set or at pegging.
- **Application Interval:** Make second application at early pod set or at pegging.
- **Pre-Harvest Interval (PHI):** N/A.

PEPPER AND EGGPLANT

(includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper)

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Damping Off (<i>Pythium</i> spp.)	1.4
Crown Rot (<i>Phytophthora</i> spp.) ¹	(1.0)

(continued)

PEPPER AND EGGPLANT *(continued)*

PPI Application Instructions

- For direct-seeded peppers, apply pre-plant or prior to emergence.
- Broadcast as a soil application prior to planting with sufficient spray volume to ensure uniform coverage.
- Xylar FC should be mechanically incorporated or moved into the root zone with 0.5 to 1 inch of irrigation water before planting.

Banded Application Instructions

- For a banded application, a 12 – 16-inch band is recommended. Apply with sufficient spray volume to provide uniform coverage.
- A maximum of 2 additional post-directed applications may be made at 30-day intervals for additional control.
- Direct the spray towards the base of the plants, covering 6 - 8 inches of soil on either side of the plants.
- Xylar FC should be moved into the root zone after planting with 0.5 to 1 inch of sprinkler irrigation water.

Soil Shank Application Instructions

- Apply as a banded application shanked into the soil on either side of the plants. See the **Banded Application Instructions** section for more information and the banded application calculation.

Irrigation Injection Application Instructions

- Apply as an injection application by injecting Xylar FC into the irrigation water or fertilizer.
- A maximum of 2 additional applications may be made at 30-day intervals for additional control.

Specific Disease Instructions

• Crown rot (*Phytophthora* spp.):

- Apply Xylar FC prior to the onset of disease for best results.
- Xylar FC does not provide disease control in plants already infected with *Phytophthora*.
- Foliar applications of Xylar FC will not provide control of foliar *Phytophthora* disease.
- In areas with a history of late-season *Phytophthora* disease, a follow up application of another EPA registered fungicide labeled for *Phytophthora* control is recommended 17 to 21 days following the last application of this product.

Precautions

- This product may cause some yellowing of the pepper leaves.

Specific Use Restrictions

- Do not use this product in greenhouses or field-grown vegetable bedding plants.
- **Maximum Single Application:** Do not apply more than 1.4 quarts/A (1.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 4.3 quarts of Xylar FC (3.0 lb a.i.) per acre per year for soil applications and the equivalent of 1.0 lb of metalaxyl per acre per year from any foliar-applied metalaxyl products.
 - Do not apply more than 3 applications per year at the high rate of 1.4 quarts/A.
- **Application Interval:** 30 days.
- **Pre-Harvest Interval (PHI):** 7 days.

PINEAPPLE

Diseases	USE RATES fl oz product/100 gallons (lb a.i./100 gallons)
Heart Rot Disease (<i>Phytophthora</i> spp.)	22.9 - 45.7 (0.50 - 1.0)

(continued)

PINEAPPLE *(continued)*

Crown Dip Application Instructions

- Apply the mixture before planting as a crown dip.
- Mix Xylar FC at the specified rate and use 75 - 100 gallons of dip solution per planting acre. Planting density, crown size, and dipping technique will affect the amount of mixture needed per acre.

Specific Use Restrictions

- If there is a crop failure within 1 year of planting treated crowns, do not use harvest plant material for animal feed.
- **Maximum Single Application:** Do not apply more than 45.7 fl oz/A (1.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 45.7 fl oz of Xylar FC (1.0 lb a.i.) per acre per year.
 - Apply only once as a crown dip treatment.
- **Application Interval:** N/A.
- **Pre-Harvest Interval (PHI):** N/A.

POTATO

Diseases	USE RATES fl oz product/1000 row ft (lb a.i./1000 row ft)
	Pythium Leak (<i>Pythium</i> spp.) Pink Rot (<i>Phytophthora erythroseptica</i>) Seedling Diseases (<i>Pythium</i> spp.)
In-Furrow Application Instructions	
<ul style="list-style-type: none"> • Apply as an in-furrow 6 - 8 inch spray band directly over the seed piece with sufficient spray volume to ensure uniform coverage of the row. • This product may be applied in combination with liquid fertilizers or impregnated on dry fertilizers. 	
Storage Rot (<i>Pythium</i> spp., <i>Phytophthora erythroseptica</i>)	fl oz product/A (lb a.i./A) 9.1 (0.2)

Specific Disease Instructions

- **Storage rot (*Pythium* spp., *Phytophthora erythroseptica*):** In addition to the in-furrow application, a follow-up foliar application of Xylar FC may be needed:
 - When conditions are conducive to Pythium leak/Pink Rot.
 - When growing a variety susceptible to Pythium leak/Pink Rot.
 - In areas with long growing seasons:
- Make a foliar application after tuber initiation, when the largest tubers have a diameter the size of a nickel. This often coincides with the initiation of flowering. Follow up with a second application 14 days later. In areas with a history of storage rot, a third application 14 days after the second application is recommended.
- If conditions favor the development of foliar disease, tank-mix Xylar FC with an approved fungicide effective for the control of those diseases.

Specific Use Restrictions

- Do not apply as a dribble over the seed piece.
- Do not use for disease control in greenhouse or field grown vegetable bedding plants.
- **Maximum Single Application:** Do not apply more than 1.2 fl oz/1000 row ft (0.0263 lb a.i./1000 row ft) for in-furrow applications or 9.1 fl oz/A (0.2 lb a.i./A) for foliar applications.
- **Annual Maximum:**
 - Do not exceed 31.5 fl oz of Xylar FC (0.69 lb a.i.) per acre per year for soil applications and the equivalent of 0.8 lb of metalaxyl from any foliar-applied metalaxyl products.
 - Do not apply more than 1 in-furrow application or more than 4 foliar applications.
- **Application Interval:** 14 days.
- **Pre-Harvest Interval (PHI):** 14 days.

RASPBERRIES

Diseases	USE RATES
	fl oz product/1000 row ft. (lb a.i./1000 row ft.)
Phytophthora Root Rot (<i>Phytophthora</i> spp.)	11.4 (0.25)
Soil Surface Application Instructions	
<ul style="list-style-type: none"> Apply as a 3-foot banded spray to the soil surface. Make 1 application in the spring. Follow up with a second application in the fall after harvest. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Maximum Single Application: Do not apply more than 11.4 fl oz/1000 row ft. (0.25 lb a.i./1000 row ft.). Annual Maximum: <ul style="list-style-type: none"> Do not apply more than 329.1 fl oz of product (7.2 lb metalaxyl) per acre per year. Do not apply more than 2 applications per year. Application Interval: Make 1 application in the spring. Follow up with a second application in the fall after harvest. Pre-Harvest Interval (PHI): 45 days. 	

ROOT AND TUBER VEGETABLES CROP GROUP 1 (EXCEPT POTATO AND SUGAR BEET)

Arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; beet, garden; burdock, edible; canna, edible; carrot; cassava, bitter and sweet; celeriac (celery root); chayote (root); chervil, turnip-rooted; chicory; chufa; dasheen (taro); ginger; ginseng; horseradish; laren; parsley, turnip-rooted; parsnip; radish; radish, oriental (daikon); rutabaga; salsify (oyster plant); salsify, black; salsify, Spanish; skirret; sweet potato; taniar; turmeric; turnip; yam bean; yam true.
(See POTATOES and SUGAR BEETS for additional information)

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Pythium Root Rot (<i>Pythium</i> spp.)	1.4 – 2.9
Phytophthora Root Rot (<i>Phytophthora</i> spp.)	(1.0 - 2.0)
PPI Application Instructions	
<ul style="list-style-type: none"> Broadcast as a soil application prior to planting with sufficient spray volume to ensure uniform coverage. Mechanically incorporate into the top 2 inches of soil. For banded applications, a 7-inch band is recommended. See the Banded Application Instructions section for more information and the banded application calculation. 	
Soil Surface Application Instructions	
<ul style="list-style-type: none"> Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage. For banded applications, a 7-inch band is recommended. See the Banded Application Instructions section for more information and the banded application calculation. If rainfall is not expected before seed germination starts, Xylar FC should be moved into the seed zone after planting with 0.5 to 1 inch of irrigation. 	

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ROOT AND TUBER VEGETABLES CROP GROUP 1 (EXCEPT POTATO AND SUGAR BEET) (continued)

Specific Use Restrictions
<ul style="list-style-type: none"> Do not use for disease control in greenhouse or field grown vegetable bedding plants. Maximum Single Application: Do not apply more than 2.9 quarts/A (2.0 lb a.i./A). Annual Maximum: <ul style="list-style-type: none"> Do not exceed 2.9 quarts of Xylar FC (2.0 lb a.i.) per acre per year for soil applications. Do not apply more than 1 application per year at the high rate of 2.9 quarts/A. Application Interval: N/A. Pre-Harvest Interval (PHI): N/A.

SOYBEANS

Diseases	USE RATES	
	fl oz product/1000 row ft (lb a.i./1000 row ft)	fl oz product/A (lb a.i./A)
Phytophthora Root and Stem Rot (<i>Phytophthora megasprema</i>) ¹	0.21 - 0.79 (0.0047 - 0.0172)	17.1 - 57.1 (0.375 - 1.25)
Pythium Damping Off (<i>Pythium</i> spp.)		

At-Plant Application Instructions

Following best local practice, follow the linear rate application instructions to apply in-furrow as a spray or stream directed to the soil adjacent to seed rather than directly on seed to increase crop safety. Thorough coverage of these areas are important for good disease control. Use the higher rate for season-long control.

Soil Surface Application Instructions

Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage.

- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.
- Use the full broadcast rate for season-long control.

Precautions

- Crop injury may occur if the seed is sprayed directly.

Specific Disease Instructions

- Phytophthora:** Under heavy late season disease pressure, this product may not provide complete control. For best results, use soybean varieties that have some degree of resistance to the races of *Phytophthora* in the field. Use the higher rate in areas with a history of severe *Phytophthora* damage.

Specific Use Restrictions

- Maximum Single Application:** Do not apply more than 57.1 fl oz/A (1.25 lb a.i./A).
- Annual Maximum:**
 - Do not exceed 57.1 fl oz of Xylar FC (1.25 lb a.i.) per acre per year.
 - Do not apply more than 1 application per year at the high rate of 57.1 fl oz/A.
- Application Interval:** N/A.
- Pre-Harvest Interval (PHI):** N/A.

STONE FRUITS & ALMONDS & WALNUTS

Almond; apricot; cherry, sweet; cherry, tart; nectarine; peach; plum; plum, Chickasaw; plum, Damson; plum, Japanese; plumcot; prune (fresh); walnut

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Crown Rot (<i>Phytophthora</i> spp.) Collar Rot (<i>Phytophthora</i> spp.) Root Rot (<i>Phytophthora</i> spp.)	5.7 (4.0) (4.1 fl oz/1000 ft ²)

- To aid in disease control, use Xylar FC in conjunction with good cultural practices and disease-resistant rootstock.
- Apply Xylar FC prior to the appearance of disease symptoms, especially under conditions favorable for disease development. Xylar FC will not revitalize trees already showing moderate to severe disease symptoms.

Soil Surface Application Instructions

- Broadcast as a soil surface application with sufficient spray volume to ensure uniform coverage of the soil under the canopies of the trees.
 - New plantings:** Apply Xylar FC 2 weeks after planting (except California), ensuring adequate coverage of the root zone.
 - Established plantings:** Apply Xylar FC in the spring before new growth begins.
- Follow-up applications should be made in 2 – 3-month intervals or to coincide with conditions that favor the development of disease.
- For intensive plantings (2 – 3 times normal planting rate), make applications on a per acre basis.

Precautions

- Do not dip the roots of trees in the treatment solution, spray the roots, or concentrate the treatment around the tree trunks or injury may occur.
- Do not apply to trees under stress.

Specific Use Restrictions

- In California,** do not apply this product to newly planted trees within 90 days of planting.
- Do not graze livestock in treated areas.
- Do not graze or feed cover crops grown in treated orchards.
- Maximum Single Application:** Do not apply more than 5.7 quarts/A (4.0 lb a.i./A).
- Annual Maximum:**
 - Do not exceed 4.3 gallons of Xylar FC (12.0 lb metalaxyl) per acre per year.
 - Do not make more than 3 applications per year at the high rate of 5.7 quarts/A.
- Application Interval:** Follow-up applications should be made in 2 – 3-month intervals or to coincide with conditions that favor the development of disease.
- Pre-Harvest Interval (PHI):** N/A.

STRAWBERRIES

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Red Stele (<i>Phytophthora fragariae</i>) Vascular Collapse (<i>Phytophthora cactorum</i>) Leather Rot (<i>Phytophthora cactorum</i>)	1.4 (1.0)

(continued)

STRAWBERRIES (continued)

Soil Surface Application Instructions

- Broadcast as a soil application with sufficient spray volume to ensure uniform coverage and to move the product into the root zone. In areas with low rainfall, overhead irrigation or mechanical incorporation may be required.
- For applications using drip irrigation, use the amount of product that would be applied in a banded application to cover the root zone of the plants. To determine the appropriate application rate of Xylar FC for drip irrigation applications, refer to **Banded Application Instructions**.
- New plantings:** Apply Xylar FC 2-3 times per year; once after transplanting followed by an application 30 days before harvest or at fruit set. A third application may be made during harvest season when conditions favor the development of disease.
- Established plantings:** Apply Xylar FC 2-3 times per year; once after ground thaw but before first bloom followed by an application in the fall after harvest. An additional in-season application may be made during fruit set for the control of leather rot.

Specific Use Restrictions

- Maximum Single Application:** Do not apply more than 1.4 quarts/A (1.0 lb a.i./A).
- Annual Maximum:**
 - Do not exceed 4.3 quarts of Xylar FC (3.0 lb a.i.) per acre per year.
 - Do not apply more than 3 applications per year at the high rate of 1.4 quarts/A.
- Application Interval:**
 - New plantings:** Apply Xylar FC 2-3 times per year; once after transplanting followed by an application 30 days before harvest or at fruit set. A third application may be made during harvest season when conditions favor the development of disease.
 - Established plantings:** Apply Xylar FC 2-3 times per year; once after ground thaw but before first bloom followed by an application in the fall after harvest. An additional in-season application may be made during fruit set for the control of leather rot.
- Pre-Harvest Interval (PHI):** N/A.

SUGAR BEETS

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Pythium Root Rot (<i>Pythium</i> spp.)	1.4 – 2.9 (1.0 - 2.0)

PPI Application Instructions

- Broadcast as a soil application prior to planting with sufficient spray volume to ensure uniform coverage.
- Mechanically incorporate into the top 2 inches of soil.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** for more information and the banded application calculation.

Soil Surface Application Instructions

- Broadcast as a soil application at planting with sufficient spray volume to ensure uniform coverage.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.
- If rainfall is not expected before seed germination starts, Xylar FC should be moved into the seed zone after planting with 0.5 to 1 inch of irrigation.

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SUGAR BEETS *(continued)*

Specific Use Restrictions

- **Maximum Single Application:** Do not apply more than 2.9 quarts/A (2.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 2.9 quarts of Xylar FC (2.0 lb a.i.) per acre per year.
 - Do not apply more than 1 application per year at the high rate of 2.9 quarts/A.
- **Application Interval:** N/A.
- **Pre-Harvest Interval (PHI):** N/A.

TOBACCO

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Damping-Off (<i>Pythium</i> spp.) ¹	0.71 – 1.4
Blue Mold (<i>Pernospora tabacina</i>) ²	(0.50 - 1.0)
Black Shank (<i>Phytophthora parasitica</i> var. <i>nicotiana</i>) ³	1.4 – 4.3 (1.0 - 3.0)

Specific Disease Instructions

• ¹Damping-off (*Pythium* spp.)

- Broadcast as a soil application prior to transplanting or at-plant with sufficient spray volume to ensure uniform coverage.
- Use the higher rate of Xylar FC for broadleaf tobacco.

• ²Blue Mold (*Pernospora tabacina*)

- For best results, use Xylar FC in the field plant bed followed by another application prior to transplanting.
 - **Field-planted tobacco:**
 - Broadcast as a soil application prior to transplanting with sufficient spray volume to ensure uniform coverage and mechanically incorporate into the top 2 - 4 inches of soil before forming beds. For flue-cured tobacco, use 0.71 – 1.4 quarts per acre, depending on disease pressure and desired length of control.
 - For burley and other types of tobacco, use 1.4 quarts per acre.
 - A follow-up layby application at the last cultivation may be applied if less than 1.4 quarts per acre of Xylar FC was applied prior to transplanting. Direct the spray so that it is under the plants and covered by soil from the cultivator. Do not make this application if no Xylar FC was applied prior to transplanting or more than 1.4 quarts per acre was applied.

• **No-till tobacco:**

- Broadcast or band as a soil application prior to transplanting with sufficient spray volume to ensure uniform coverage.
- For banded applications, see the **Banded Application Instructions** section for more information and the banded application calculation.
- A follow-up layby application 30 - 35 days after planting may be applied if 1.4 quarts per acre or less of Xylar FC was applied prior to transplanting. Do not make this application if no Xylar FC was applied prior to transplanting or more than 1.4 quarts per acre was applied.

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TOBACCO *(continued)*

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• ³Black Shank (*Phytophthora parasitica* var. *nicotiana*)

- Broadcast as a soil application prior to transplanting with sufficient spray volume to ensure uniform coverage and mechanically incorporate into the top 2 - 4 inches of soil.
- For flue-cured tobacco, use 1.4 – 4.3 quarts per acre, depending on disease pressure.
 - Disease severity < 6% = 1.4 quarts per acre.
 - Disease severity > 6% = 4.3 quarts per acre (FL, GA only), 2.9 quarts per acre (all other states).
 - Xylar FC is not recommended for use on highly susceptible flue-cured varieties in areas with a history of severe black shank disease.
- For burley and other types of tobacco, use 2.9 – 4.3 quarts per acre depending on disease pressure.
 - Disease severity < 6% = 2.9 quarts per acre.
 - Disease severity > 6% = use 4.3 quarts per acre.
- Field-planted tobacco (select one of the following):
 - Broadcast as a soil application prior to transplanting with sufficient spray volume to ensure uniform coverage and mechanically incorporate into the top 2 - 4 inches of soil. A follow-up layby application at the last cultivation may be applied at the rate of 0.71 – 1.4 quarts per acre if 1.4 quarts per acre or less of Xylar FC was applied prior to transplanting. Direct the spray so that it is under the plants and covered by soil from the cultivator. Do not make this application if more than 1.4 quarts per acre was applied.
 - Broadcast 1.4 quarts per acre as a soil application prior to transplanting with sufficient spray volume to ensure uniform coverage and mechanically incorporate into the top 2-4 inches of soil. Apply a follow-up layby application at both the first and last cultivation at the rate of 1.4 quarts per acre.
 - Use Xylar FC in conjunction with good cultural practices and resistant varieties to minimize disease pressure. Severe nematode infestations may also lead to poor black shank control.
 - In areas with a history of black shank, use the highest application rate of Xylar FC available and plant a variety resistant to the *Phytophthora* race in your field (Burley L8 hybrids are only resistant to *Phytophthora* Race O).

Specific Use Restrictions

- Do not use Xylar FC in transplant water or foliar applications in field tobacco.
- Do not use Xylar FC for disease control in greenhouses.
- Do not use Xylar FC for black shank control in PA.
- **Maximum Single Application:** Do not apply more than 4.3 quarts/A (3.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 4.3 quarts of Xylar FC (3.0 lb a.i.) per acre per year.
 - Do not apply more than 1 application per year at the high rate of 4.3 quarts/A, or 3 applications per year at the mid rate of 1.4 quarts/A.
- **Application Interval:** Follow up layby applications may be applied 30-35 days after planting, or at the first and/or last cultivation depending on the disease being treated. See specific disease instructions above.
- **Pre-Harvest Interval (PHI):** N/A.

TOMATO

Diseases	USE RATES
	quarts product/A (lb a.i./A)
Damping-Off (<i>Pythium</i> spp.)	1.4 – 2.9 (1.0 – 2.0)
Root and Fruit Rot (<i>Phytophthora</i> spp., <i>Pythium</i> spp.) ¹	1.4 (1.0)

Soil Surface Application Instructions

- Broadcast or band as a soil application at-plant with sufficient spray volume to obtain thorough coverage.
- If rainfall is not expected prior to germination, mechanically incorporate Xylar FC prior to planting or irrigate with 0.5 - 1.0 inch of water to move the product into the root zone.
- For banded applications, a 7-inch band is recommended. See the **Banded Application Instructions** section for more information and the banded application calculation.

Specific Disease Instructions

• Root and Fruit Rot (*Phytophthora* spp., *Pythium* spp.)

- Broadcast as a soil application or inject into the beds using water or liquid fertilizer 4 - 6 weeks after planting.
- If applied as a soil broadcast application, 0.5 - 1.0 inch of rainfall or irrigation water is needed to move the product into the root zone.
- To determine the appropriate application rate of Xylar FC for injection applications, refer to **Banded Application Instructions** and base calculations on a 7-inch band width. If less than the full bed is treated, adjust the rate accordingly.
- A second application may be needed up to 4 weeks before harvest, but before last irrigation.

Specific Use Restrictions

- Do not use this product for disease control in greenhouse or field grown vegetable bedding plants.
- Do not use this product as a transplant water treatment.
- **Maximum Single Application:** Do not apply more than 2.9 quarts/A (2.0 lb a.i./A).
- **Annual Maximum:**
 - Do not exceed 4.3 quarts of Xylar FC (3.0 lb a.i.) per acre per year for soil applications and the equivalent of 1.0 lb of metalaxyl per acre per year from any foliar-applied metalaxyl products.
 - Do not apply more than 1 application per year at the high rate of 2.9 quarts/A, or 3 applications per year the low rate of 1.4 quarts/A.
- **Application Interval:** A soil application 4 - 6 weeks after the planting application followed by a second soil application up to 4 weeks before harvest, but before the last irrigation may be applied.
- **Pre-Harvest Interval (PHI):** Make the last application up to 4 weeks before harvest.

SPECIFIC USE DIRECTIONS FOR ORNAMENTALS AND NON-FOOD CROPS

ORNAMENTALS

Xylar FC is for use on container, bench, or bed grown ornamentals in greenhouses or outdoor nurseries, and for use on ornamentals grown for indoor and outdoor landscaping. Xylar FC is not for residential use. May be applied through irrigation systems, as a soil drench, as a soil spray, or incorporated into a soil mix for subsequent seeding or transplanting. May be applied as a foliar spray on azaleas. Within a rate range given for a specific group of ornamentals, use the lower specified rate for the shortest interval listed and the higher specified rate for the longest interval. Under severe disease conditions, use the highest specified rate and the shortest interval specified.

Metalaxyl has been shown to be safe when applied to many ornamental plants under typical conditions of use. However, it is impossible to test every species for tolerance due to the large variety of species. It is recommended that the user conducts a small-scale test to ensure plant safety prior to large-scale commercial use of this product on varieties which have not been shown to be tolerant through experience or recommendation. Consult your local consultant or product representative for recommendations on tolerant species.

FOLIAGE PLANT ORNAMENTALS

(*Aglaonema*, *Aphelandra*, *Dieffenbachia*, *Peperomia*, *Philodendron*¹, *Pothos*², *Schefflera*, *Sedum*, *Sempervivum*, *Zygocactus*)

Diseases	USE RATES		
	Soil Drench	Soil Mix	Soil Surface Spray
	fl oz product/ 100 gallons (lb a.i./ 100 gallons)	fl oz product/ cu. yd. (lb a.i./cu yd)	fl oz product/ 1000 sq ft lb a.i./ 1000 sq ft
Water Mold, Damping-Off, Root Rot, Stem Rot, Crown Diseases (<i>Phytophthora</i> spp., <i>Pythium</i> spp.)	0.37 - 0.91 (0.008 - 0.02)	0.18 - 0.37 (0.004 - 0.008)	1.4 (0.03)

Soil Application Instructions

- **Soil drench:**
 - Mix the specified volume of Xylar FC with 100 gallons of water.
 - Apply 1 pint of mixed solution per square foot. If growth media is > 4 inches deep, apply 1.5 - 2.0 pints of mixture per square foot.
 - Follow-up applications may be made every 2 - 3 months if conditions favor the development of disease.
- **Philodendron:** Use 0.73 - 1.4 fl oz Xylar FC per 100 gallons as a soil drench treatment.
- **Pothos:** To minimize the risk for phytotoxicity, do not use more than 0.55 fl oz Xylar FC per 100 gallons as a soil drench treatment and do not apply at less than a 3-month interval.
- **Soil mix:**
 - Mix the specified volume of Xylar FC thoroughly with each cubic yard of soil.
- **Soil surface spray:**
 - Broadcast or band the specified volume of Xylar FC per 1000 square feet as a soil application with sufficient spray volume to obtain thorough coverage.
 - For banded applications, see the **Banded Application Instructions** section for more information and the banded application calculation.
 - If rainfall does not occur with 7 days, irrigate with 0.5 - 1.0 inch of water to move Xylar FC into the root zone.
 - Follow-up applications may be made every 2 - 3 months if conditions favor the development of disease.

Specific Use Restrictions

- Minimum retreatment interval: 60 days.
- Do not exceed 3.7 fl oz of Xylar FC (0.08 lb a.i.) per 1000 sq ft or 1.2 gallons of Xylar FC (3.4 lb a.i.) per acre as a single application.
- Do not exceed 12.8 fl oz of Xylar FC (0.28 lb a.i.) per 1000 sq ft or 4.4 gallons of Xylar FC (12.3 lb a.i.) per acre per year.

BEDDING PLANT ORNAMENTALS

(Ageratum, Algerian Ivy, Artemisia, Aster, Begonia, Caladium, Carnation, Chrysanthemum, Coleus, Daisy, English Ivy¹, Foxglove, Gaillardia, Geranium, Impatiens, Marigold, Pansy, Petunia, Phlox, Pinks, Primrose, Prostrate Rosemary, Salvia, Snapdragon, Verbena, Vinca, Zinnia)

Diseases	USE RATES		
	Soil Drench	Soil Mix	Soil Surface Spray
	fl oz product/ 100 gallons (lb a.i./ 100 gallons)	fl oz product/ cu. yd. (lb a.i./cu yd)	fl oz product/ 1000 sq ft lb a.i./ 1000 sq ft
Water Mold, Damping-Off, Root Rot, Stem Rot, Crown Diseases (<i>Phytophthora</i> spp., <i>Pythium</i> spp.)	At Seeding: 0.18 - 0.37 (0.004 - 0.008) At Transplant: 0.37 - 1.4 (0.008 - 0.03)	0.18 (0.004)	1.4 (0.03)

Soil Application Instructions

• Soil Drench at Seeding:

- Mix the specified volume of Xylar FC with 100 gallons of water.
- Apply 1 pint of mixed solution per square foot.

• Soil Drench at Transplant:

- Mix the specified volume of Xylar FC with 100 gallons of water.
- Apply 1 pint of mixed solution per square foot.
- Follow-up applications may be made every 1-2 months if conditions favor the development of disease. Do not apply 1.05 - 1.4 fl oz product/100 gallons rate more than once every 6 weeks.

• Soil Mix:

- Mix the specified volume of Xylar FC thoroughly with each cubic yard of soil.
- May be used at seeding and at transplanting.

• Soil Surface Spray:

- Broadcast or band the specified volume of Xylar FC per 1000 square feet as a soil application with sufficient spray volume to obtain thorough coverage.
- For banded applications, see the **Banded Application Instructions** section for more information and the banded application calculation.
- If rainfall does not occur with 7 days, irrigate with at least 0.5 inches of water to move Xylar FC into the root zone
- Follow-up applications may be made every 1-2 months if conditions favor the development of disease.

Precautions

- **English Daisy:** Do not make more than 1 application to English Daisy every 6 months.

Specific Use Restrictions

- Minimum retreatment interval: 30 days.
- Do not exceed 1.8 fl oz of Xylar FC (0.04 lb a.i.) per 1000 sq ft or 0.6 gallons of Xylar FC (1.7 lb a.i.) per acre as a single application.
- Do not exceed 12.8 fl oz of Xylar FC (0.28 lb a.i.) per 1000 sq ft or 4.4 gallons of Xylar FC (12.3 lb a.i.) per acre per year.

FLOWER ORNAMENTALS

(Ffrican violet, Anthurium, Baby's breath, Carnation, Chrysanthemum, Columbine, Delphinium, Easter lily¹, Geranium, Gloxinia, Poinsettia, Rose)

Diseases	USE RATES	
	Soil Drench	Soil Surface Spray
	fl oz product/ 100 gallons (lb a.i./100 gallons)	fl oz product/ 1000 sq ft lb a.i./1000 sq ft
Water Mold, Damping-Off, Root Rot, Stem Rot, Crown Diseases (<i>Phytophthora</i> spp., <i>Pythium</i> spp.)	0.27 - 1.4 (0.006 - 0.03)	1.4 (0.03)

Soil Application Instructions

• Soil Drench:

- Mix the specified volume of Xylar FC with 100 gallons of water.
- Apply 1 pint of mixed solution per square foot. If growth media >4 inches deep, apply 1.5 - 2.0 pints of mixture per square foot.
- Follow-up applications may be made every 1 - 2 months if conditions favor the development of disease.
- Do not apply 1.05 - 1.4 fl oz product/100 gallons more than once every 6 weeks.

• Easter lily

- Do not make more than 1 at-plant application; no follow-up applications are permitted.
- Do not apply more than 0.73 fl oz product/100 gallons (0.016 lb a.i.).

• Soil Surface Spray in the Landscape:

- Broadcast or band the specified volume of Xylar FC per 1000 square feet as a soil application with sufficient spray volume to obtain thorough coverage.
- For banded applications, see the **Banded Application Instructions** section for more information and the banded application calculation.
- If rainfall does not occur with 7 days, irrigate with at least 0.5 inches of water to move Xylar FC into the root zone.
- Follow-up applications may be made every 2 - 3 months if conditions favor the development of disease.

Specific Use Restrictions

- Minimum retreatment interval: 30 days.
- Do not exceed 3.7 fl oz of Xylar FC (0.08 lb a.i.) per 1000 sq ft or 1.2 gallons of Xylar FC (3.4 lb a.i.) per acre as a single application.
- Do not exceed 12.8 fl oz of Xylar FC (0.28 lb a.i.) per 1000 sq ft or 4.4 gallons of Xylar FC (12.3 lb a.i.) per acre per year.

AZALEAS AND RHODODENDRON ORNAMENTALS

Diseases	USE RATES	
	Soil Drench	Soil Surface Spray
	fl oz product/ 100 gallons (lb a.i./100 gallons)	fl oz product/ 1000 sq ft lb a.i./1000 sq ft
Water Mold, Damping-Off, Root Rot, Stem Rot, Crown Diseases (<i>Phytophthora</i> spp., <i>Pythium</i> spp.)	0.73 - 1.8 (0.016 - 0.04)	0.87 - 1.8 (0.019 - 0.04)

(continued)

AZALEAS AND RHODODENDRON ORNAMENTALS *(continued)*

- Soil Application Instructions**
- **Soil drench:**
 - Mix the specified volume of Xyler FC with 100 gallons of water.
 - Apply 1 pint of mixed solution per square foot for growth media <4 inches deep or 1.5 - 2.0 pints of mixture per square foot if growth media is >4 inches deep.
 - Follow-up applications may be made every 2 - 4 months if conditions favor the development of disease.
 - **Soil surface spray:**
 - Broadcast or band the specified volume of Xyler FC per 1000 square feet as a soil application with sufficient spray volume to obtain thorough coverage.
 - For banded applications, see the **Banded Application Instructions** section for more information and the banded application calculation.
 - If rainfall does not occur with 7 days, irrigate with at least 0.5 inches of water to move Xyler FC into the root zone.

Diseases	USE RATES
	Foliar Spray
	fl oz product/100 gallons (lb a.i./100 gallons)
<i>Phytophthora</i> shoot blight (<i>Phytophthora</i> spp.)	0.87 – 1.8 (0.019 - 0.04)

- Foliar Application Instructions**
- Mix the specified volume of Xyler FC with 100 gallons of water.
 - Apply as a foliar spray to runoff.
 - Follow-up applications may be made every 2-3 months if conditions favor the development of disease.

- Precautions for Azaleas**
- Do not apply rates greater than 1.8 fl oz product (0.04 lb a.i.) per 100 gallons more than once every 3 months.
 - Do not apply greater than 3.6 fl oz product (0.08 lb a.i.) over a 6-month period.
 - "Coral Bell" variety: Use only the low rate.

- Specific Use Restrictions**
- Minimum retreatment interval: 60 days.
 - Do not exceed 4.6 fl oz of Xyler FC (0.10 lb a.i.) per 1000 sq ft or 1.5 gallons of Xyler FC (4.2 lb a.i.) per acre as a single application.
 - Do not exceed 7.3 fl oz of Xyler FC (0.16 lb a.i.) per 1000 sq ft or 2.43 gallons of Xyler FC (6.8 lb a.i.) per acre per year.

WOODY ORNAMENTALS OTHER THAN AZALEAS (*Acubca japonica*, *Arborvitae*, *Boxwood*, *Ceanothus*, *Cotoneaster*, *Dogwood*, *Ficus*, "Halls" *Honeysuckle*, *Ilex*, *Juniperus* spp., *Photinia*, *Pieris japonica*, *Pinus* spp., *Pittosporum*, *Rhododendron*, *White Cedar*, *White Pine*, *Yew*)

Diseases	USE RATES	
	Soil Drench	Soil Surface Spray
	fl oz product/ 100 gallons (lb a.i./100 gallons)	fl oz product/ 1000 sq ft lb a.i./1000 sq ft
Water Mold, Damping-Off, Root Rot, Stem Rot, Crown Diseases (<i>Phytophthora</i> spp., <i>Pythium</i> spp.)	0.73 – 2.9 (0.016 - 0.06)	1.4 – 3.7 (0.03 – 0.08)

(continued)

WOODY ORNAMENTALS OTHER THAN AZALEAS *(continued)*

- Soil Application Instructions**
- **Soil drench:**
 - Mix the specified volume of Xyler FC with 100 gallons of water.
 - Apply 1 pint of mixed solution per square foot for growth media <4 inches deep or 1.5 - 2.0 pints of mixture per square foot if growth media is >4 inches deep.
 - Follow-up applications may be made every 2 - 3 months if conditions favor the development of disease
 - Do not apply more than 5.7 fl oz of Xyler FC (0.125 lb a.i.) per 100 gallons more frequently than once every 10 weeks.
 - **Soil surface spray:**
 - Broadcast or band the specified volume of Xyler FC per 1000 square feet as a soil application with sufficient spray volume to obtain thorough coverage.
 - For banded applications, see the **Banded Application Instructions** section for more information and the banded application calculation.
 - If rainfall does not occur within 7 days, irrigate with at least 0.5 inches of water to move Xyler FC into the root zone
 - Follow-up applications may be made every 2 - 3 months if conditions favor the development of disease.

- Precautions**
- Do not apply to *Euonymus* or injury may occur.

- Specific Use Restrictions**
- Minimum retreatment interval: 60 days.
 - Do not exceed 7.3 fl oz of Xyler FC (0.16 lb a.i.) per 1000 sq ft or 2.43 gallons of Xyler FC (6.8 lb a.i.) per acre as a single application.
 - Do not exceed 12.8 fl oz of Xyler FC (0.28 lb a.i.) per 1000 sq ft or 4.4 gallons of Xyler FC (12.3 lb a.i.) per acre per year.

INTERIORESCAPE AND INDIVIDUAL PLANT USE

Use the following conversion table for applications which use much less than 100 gallons of water and/or the area to be treated is small. The table provides product rates to make small quantities of solution. Use the correct rate for the particular plant being treated.

fl oz product/ 100 gallon rate	mL of Product / volume of water			
	1 Gallon	5 Gallons	10 Gallons	25 Gallons
0.37	0.11	0.5	1.1	2.7
0.73	0.22	1.1	2.2	5.4
1.4	0.41	2.1	4.1	10.4
2.9	0.86	4.3	8.6	21.4

- Soil Application Instructions**
- **Soil drench:**
 - Mix the specified volume of Xyler FC with the indicated volume of water.
 - Apply over the soil surface with sufficient volume to wet the root area of the plants.

CITRUS (NON-BEARING; NURSERIES AND LANDSCAPES)

Diseases	USE RATES	
	Soil Drench	Soil Surface Spray
	fl oz product/ 100 gallons (lb a.i./ 100 gallons)	quarts product/A (lb a.i./A)
Citrus Foot Rot (<i>Phytophthora</i> spp.) Root Rot (<i>Phytophthora</i> spp.) Trunk Canker (<i>Phytophthora</i> spp.)	2.9 – 4.1 (0.06 – 0.09)	5.7 (4.0)
Soil Application Instructions		
• Soil drench: <ul style="list-style-type: none"> Mix the specified volume of Xylar FC with 100 gallons of water. Apply over the row as a soil drench at a rate of 100 - 250 gallons of mixed solution per 1000 row feet, ensuring that the treated area covers plant roots. • Soil surface spray: <ul style="list-style-type: none"> Broadcast or band the specified volume of Xylar FC per acre as a soil application to seedbeds, liners, or bedded stock with sufficient spray volume to obtain thorough coverage. For banded applications, ensure that the treated area covers the root systems of the plants. See the Banded Application Instructions section for more information and the banded application calculation. If rainfall does not occur within 7 days, irrigate with at least 0.5 inches of water to move Xylar FC into the root zone. 		
Specific Use Restrictions		
<ul style="list-style-type: none"> Do not apply to greenhouse citrus nursery stock intended for commercial fruit production. Do not exceed 12.8 fl oz of Xylar FC (0.28 lb a.i.) per 1000 sq ft or 4.4 gallons (12.3 lb a.i.) per acre per year. 		

CONIFERS IN NURSERIES AND PLANTATIONS

Diseases	USE RATES		
	fl oz product/A (lb a.i./A)		
Phytophthora Root Rot (<i>Phytophthora</i> spp.)	Nursery	Seedbeds and plugs	28.6 (0.625)
		2-0 transplants	57.1 (1.25)
	Plantation	3.4 – 7.1 quarts product/A (2.4 - 5.0)	
Soil Application Instructions			
• Nursery: <ul style="list-style-type: none"> Apply in a minimum of 50 gallons per acre. Apply Xylar FC once in the spring and again in the fall. • Plantation: <ul style="list-style-type: none"> Apply as a directed soil spray in a minimum of 50 gallons per acre. Do not apply to foliage. Apply Xylar FC in early spring prior to new growth and in the fall before the ground freezes. If rainfall does not occur within 3 days, irrigate with 0.5 - 1.0 inch of water to move Xylar FC into the root zone. 			
Specific Use Restrictions			
<ul style="list-style-type: none"> Nurseries: Do not exceed 0.9 gallons of Xylar FC (2.5 lb a.i.) per acre per year. Plantation: Do not exceed 3.57 gallons of Xylar FC (10.0 lb a.i.) per acre per year. 			

FRUIT AND NUT TREES (NON-BEARING)

Diseases	USE RATES
	fl oz product/1000 sq ft lb a.i./1000 sq ft
Pythium Root Rot (<i>Pythium</i> spp.) <i>Phytophthora</i> Crown Rot, Collar Rot, Root Rot (<i>Phytophthora</i> spp.)	4.1 (0.09)
Soil Application Instructions	
• Soil surface spray: <ul style="list-style-type: none"> Broadcast as a soil application with sufficient spray volume to obtain thorough coverage, ensuring that the treated area covers the plant roots. Follow-up applications may be made every 3 months if conditions favor the development of disease. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Do not apply to trees that will bear harvestable fruit or nuts within 12 months of the last application. Do not exceed 12.8 fl oz of Xylar FC (0.28 lb a.i.) per 1000 sq ft or 4.3 gallons of Xylar FC (12.0 lb a.i.) per acre per year. 	

LAWNS AND TURF

(Golf courses, lawns, landscape areas around institutional, public, commercial and industrial buildings, parks, recreational areas, and athletic fields, sod farms)

Diseases	USE RATES
	fl oz product/1000 sq ft. (lb a.i./1000 sq ft.)
Pythium Damping Off (<i>Pythium</i> spp.) (newly seeded turf only) Pythium Blight (<i>Pythium aphanidermatum</i>) Yellow Tuft/Downy Mildew (<i>Sclerophthora macrospora</i>)	0.69 - 1.4 (0.015 - 0.03)
Soil Application Instructions	
• Establish lawns and turf: <ul style="list-style-type: none"> Apply in 1 - 5 gallons of spray volume per acre. Follow-up applications may be made every 10 - 21 days. If conditions favor the development of disease, use the 1.4 fl oz. product/1000 sq ft. rate. • Newly seeded lawns and turf: <ul style="list-style-type: none"> Apply in 1-5 gallons of spray volume per acre. After application, irrigate with 0.25 - 0.5 inches of water to move Xylar FC into the root zone. Follow-up applications may be made every 7 - 14 days if conditions favor the development of disease. <ul style="list-style-type: none"> For metalaxyl or mefenoxam-treated seed, make an application every 7 - 10 days after seeding for long term <i>Pythium</i> control. To minimize the risk of fungicide resistance, it is recommended that fungicides from a different group are used in rotation with Xylar FC and that no more than 3 applications of metalaxyl be made per season. 	
Specific Use Restrictions	
<ul style="list-style-type: none"> Do not exceed 12.8 fl oz of Xylar FC (0.28 lb ai) per 1,000 square feet or 4.3 gallons of Xylar FC (12.0 lb a.i.) per acre. 	

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. Store in a cool, dry place, and do not expose to heat. 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:

Metal or Plastic Container less than or equal to 5 gallons - Non-refillable container:

Do not reuse or refill this container. Triple rinse 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 $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

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

IMPORTANT INFORMATION READ BEFORE USING 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 beyond the control of Vive Crop Protection or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Vive Crop Protection and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, VIVE CROP PROTECTION MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT.

Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or Vive Crop Protection, and Buyer assumes the risk of any such use.

To the extent consistent with applicable law, Vive Crop Protection or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF VIVE CROP PROTECTION 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 VIVE CROP PROTECTION OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement except as signed by an authorized representative of Vive Crop Protection.

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Xyler[®] FC Fungicide

Active Ingredient:

By Wt

Metalaxyl: N-(2,6-dimethylphenyl)-N-(methoxyacetyl) alanine methyl ester 31.3 %
Other Ingredients:..... 68.7 %
TOTAL..... 100.0 %

This product contains 2.8 pounds of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

This label must be in the possession of the user at the time of application.

See inside booklet for additional precautionary information. Refer to enclosed label for full instructions.

EPA Reg. No. 89118-12

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Caution. Harmful if swallowed or 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.

FIRST AID
<p>If swallowed:</p> <ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
<p>If on skin or clothing:</p> <ul style="list-style-type: none"> • 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.
<p>EMERGENCY INFORMATION</p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p> <p>In the event of a medical or chemical emergency contact Chemtel Inc. in North America at 1-800-255-3924 or worldwide international at +1-813-248-0585.</p>

ENVIRONMENTAL HAZARDS

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. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwater or rinsate.

Groundwater Advisory

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

Surface Water Advisory

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow contact with any oxidizing agent. Hazardous chemical reaction may occur.

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. Store in a cool, dry place, and do not expose to heat. 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:

Metal or Plastic Container less than or equal to 5 gallons - Non-refillable container:

Do not reuse or refill this container. Triple rinse 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 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 or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

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

Net Contents: 2½ Gallons

Vive Crop Protection Inc.
500 Westover Dr. #10198
Sanford, NC 27330
1-888-760-0187

