Helping You Grow



Nature's Biological Protection

AIC Plant Defence

Trichoderma Harzianum & WHA Fertilizer

Organic Biological Formulation

(Active Ingredient: Trichoderma Harzianum and Abalone Fish Fertilizer)

APPLICATION SHEET

CAUTION

KEEP OUT REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE USE

STORAGE AND DISPOSAL

Store product in original tightly sealed container in a safe, well ventilated cool area. DO NOT store for prolonged periods in direct sunlight. The method of disposal of the container depends on the container type. Please read the storage and disposal instructions featured on the product label that is attached to the container.

SAFETY DIRECTIONS

When using the product or hand-held equipment wear a face-mask, cotton overalls buttoned to the neck and wrist (worn over normal clothing) and elbow length PVC gloves. Wash hands, arms, face with soap and water after use and before eating, drinking or smoking. Ensure gloves and contaminated clothing are washed after each day's use.

FIRST AID

Keep out of reach of children. If poisoning occurs contact the Poisons Information Centre on Phone 131126 (Australia) or Phone 0800 764 766 (New Zealand) or contact a Doctor.

SAFETY DATA SHEET

Additional Information is listed in the Material Safety Data Sheet.

EXCLUSION OF LIABILITY

This product must be used strictly as directed, and in accordance with all instructions appearing on the label and in other reference material such as the Application Sheet and Safety Data Sheet. CASSA Bio Tec Pty Ltd, as so far as it is lawfully able to do so, accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

IMPORTANT NOTE: READ THIS DOCUMENT THOROUGHLY BEFORE OPENING OR USE OF PRODUCT.



AIC PLANT DEFENCE

(AETIOLOGY AND INFESTATION CONTROL)

Trichoderma Harzianum & WHA Abalone Fish Fertilizer

Organic Biological Formulation

Active Ingredients: Trichoderma Harzianum & Wild Harvested 100% Australian Abalone

AIC PLANT DEFENCE ACTIVE INGREDIENTS				
Trichoderma Harzianum, Abalone	95%*			
Other Ingredients 5%				
TOTAL 100%				
*Contains at least 5.0 x 108 colony forming units per gram dry weight.				

GENERAL INFORMATION

CASSA AgriTec's **AIC Plant Defence Formula** is a broad spectrum, preventative product for the support of plant health in aetiology and infestation control. Through the use of organic biological agents our AIC Plant Defence Formula supports optimal environmental conditions that enable plants to control and supress aetiology and infestation. Bio-fungicides are formulations of living organisms that are used to control the activity of plant pathogenic fungi and bacteria, The increasing public concern on the use of chemical and synthetic fungicides has led to an increase in search for an alternative control strategy. Different bio-fungicides have provided good disease control with some being comparatively effective as chemical and synthetic fungicides. CASSA AgriTec's Biological AIC Plant Defence Formula is a cost effective control solution and ideal for in-crop protection across a range of climates including tropical and sub-tropical climates. AIC Plant Defence Formula supports plant health and produce and can assist in maximising shelf life post-harvest when used as a component of aetiology and infestation control.

CASSA Wild Harvested Abalone Liquid Fish Fertilizer uses 100% local Wild Harvested Abalone. Improves soil health and increases soil fertility by providing the primary nutrients and active micro-organisms necessary for plants to thrive. WHA Soil Enhancing Fish Fertilizer offers a source of burn-free nitrogen, along with other primary nutrients of phosphorus and potassium. Unlike synthetic fertilizer, it provides secondary nutrients such as calcium and active micro-organisms. Plants grown in soils abundant in active micro-organisms that receive a balance of primary and secondary nutrients experience strong and steady plant growth leading to vigorous healthy plants that can better withstand disease and pest issues. Our liquid abalone fish fertilizer range are all free-flowing organic liquid. They are easy to decant into mixing and irrigation tanks and are guaranteed to pass easily through all forms of spray equipment, which means no more spray nozzle blockages and wasted downtime. The improved efficiency of our easy flow fertilizers means our products are rapidly absorbed and deliver the nutrients evenly. WHA Liquid Abalone Fish Fertilizer is a completely natural non-toxic organic product that can be used all year round.

All CASSA AgriTec microbes and enzymes are naturally occurring and sourced from nature. They are readily bio-degradable and have not been genetically modified. CASSA AgriTec microbes and enzymes are extracted using a proprietary enzymatic fermentation process avoiding chemical polluting treatments and carbon polluting methods.

CASSA AgriTec's AIC Plant Defence Formula is compatible with many IPM programs as it offers high quality, cost-effective, broad spectrum support for the plant to self-control aetiology and infestation across more than 200 crops, including vegetables, fruits, nuts, vines, cotton, oil palm and corn. CASSA AgriTec's AIC Plant Defence Formula, unlike chemical alternatives, provides distinct modes of biological actions, providing protection and support for aetiology and infestation programs which employ tank mix or rotation for resistance management. These natural biological agents contained in our CASSA AgriTec AIC Plant Defence Formula have never demonstrated cross-resistance with any chemical fungicide. Our organic biological formulation is non-toxic to pollinators and other beneficial insects which means it won't kill off beneficial fauna.



DISEASE SUPPRESION

The beneficial fungus Trichoderma harzianum out competes plant pathogenic fungi spores for space and nutrients, colonizing the foliage ahead of the pathogens. It acts as a mycoparasite by producing enzymes which break down the hyphae of the plant pathogenic fungi spores.

INTEGRATED PEST MANAGEMENT (IPM)

For disease resistance management, AIC Plant Defence Formula can be integrated into an overall disease and pest management strategy whenever fungicides use is necessary. Follow practices known to reduce disease development.

Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location. Be sure use of this product conforms to resistance management strategies, which may include rotating and/or tank-mixing with other products with different modes of action.

USE RATE DETERMINATION

Carefully read and follow all label directions, use rates and restrictions. Apply AIC Plant Defence Formula prior to or in the early stages of disease development. Use maximum label rates and shortened spray intervals for conditions conducive to rapid disease development. For proper application, determine the number of hectares to be treated, the recommended label use rate and select appropriate application volume to give good canopy penetration and coverage of plant parts to be protected. Prepare only the amount of spray solution required to treat the measured hectares. Accurate spray equipment calibration is essential prior to use.

PREHARVEST INTERVAL

AIC Plant Defence can be applied up to and including the day of harvest.

APPLICATION INSTRUCTIONS

GENERAL

Avoiding spray drift at the application site is the responsibility of the applicator. The interactions of many equipment-and-weather–related factors determine the potential for spray drift. The applicator and the grower/treatment coordinator are responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they should be observed. (Note: This section is advisory in nature and does not supersede the mandatory label requirements.)

GROUND

Be sure to maintain agitation during mixing and application to assure uniform product suspension. Thorough coverage of all foliage is essential for effective disease control. AIC Plant Defence Formula can be applied in commonly used ground equipment, hoseend, pressurized, greenhouse, and hand-held sprayers. To achieve good coverage, use proper spray pressure, litres per hectare nozzles, nozzle spacing and ground speed. Consult spray nozzle and accessory catalogues for specific information on proper equipment calibration.

AERIAL

This product can be applied by aerial application. Refer to the Aerial Drift Reduction Advisory Information section of this label for general directions and precautions. Use the application rate indicated for the appropriate crop in sufficient water to achieve thorough coverage, or a minimum of 60 litres of water per hectare.

CHEMIGATION

This product can be applied through sprinkler or drip type irrigation systems, including a centre pivot, lateral move, end tow, side wheel roll, traveller, solid set, and hand move. Refer to the Chemigation Directions for Use section of this label for general directions and precautions. Use the application rate indicated for the appropriate crop as specified in the Use Recommendations section.



MIXING INSTRUCTIONS

MIXING

AIC Plant Defence Formula must be diluted with water for spray applications. Partially fill the spray tank with clean water and begin agitation. Add the specified amount of AIC Plant Defence Formula to the tank. Finish filling the tank to the desired volume to obtain the proper spray concentration. It is critical that the spray solution be agitated during mixing and application to assure a uniform suspension. Do not allow the spray mixture to stand overnight or for prolonged periods.

Maintain a spray solution pH between 4.5 and 8.5.

AIC Plant Defence Formula may be tank-mixed other registered fungicides to enhance plant disease control.

Do not exceed recommended dosage rates. AIC Plant Defence Formula cannot be mixed with any product with prohibition against such mixing. Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions.

ADDITIVES

AIC Plant Defence Formula is compatible with a widerange of additives. Since the product is primarily a protectant, thorough coverage of all above-ground plant parts is required for effective product performance. To improve plant surface coverage, it is recommended to add a nonphytotoxic surfactant to spray tank.

CHEMIGATION DIRECTIONS FOR USE

GENERAL REQUIREMENTS

- 1. Apply this product only through sprinkler or drip type irrigation systems including centre pivot, lateral move, end tow, side wheel roll, traveller, solid set or hand move systems. Do not apply this product through any other type of irrigation system.
- 2. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.
- 3. Ensure that the irrigation system used is properly calibrated and if you have questions, call the State Extension Service specialists, the equipment manufacturer or other experts.
- 4. 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.
- 5. 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 any necessary adjustments should the need arise.

EQUIPMENT REQUIREMENTS

- 1. Public water supply 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 25 individuals daily at least 60 days throughout the year.
- 2. Chemigation systems connected to the public water systems must contain a functional, reduced-pressure zone (RPZ), backflow preventer or the functional equivalent in the water supply upstream from the point of AIC Plant Defence Formula 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 of the overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3. 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 back flow.
- 4. The AIC Plant Defence Formula injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back towards the injection pump.
- 5. The AIC Plant Defence Formula 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.
- 6. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 7. The system must contain functional interlocking controls to automatically shut off the AIC Plant Defence Formula 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.
- 9. Do not apply when wind speed favours drift beyond the area intended for treatment.

APPLICATION INSTRUCTIONS

- 1. Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2. Do not combine AIC Plant Defence Formula with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. AIC Plant Defence Formula has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if mixture with adjuvants or surfactants is planned.

CENTER-PIVOT, LATERAL MOVE, END TOW, AND TRAVELER IRRIGATION EQUIPMENT

(Use only with electric or oil hydraulic drive systems which provide a uniform water distribution.)

- Determine size of area to be treated.
- Determine the time required to apply no more than 1/4 inch of water (5000 litres water per hectare) over the area to be treated when the system and injection equipment are operated at normal pressures recommended by the equipment manufacturer.
- Run system at 80% 95% of manufacturer's rated capacity.
- Using only water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of AIC Plant Defence Formula required to treat area.
- Add required amount of AIC Plant Defence Formula and sufficient water to meet the injection time requirements of the solution tank.
- Maintain constant solution tank agitation during the injection period.
- Stop injection equipment after treatment is completed. Continue to operate the system until AIC Plant Defence Formula in solution has cleared the sprinkler head.

SOLID-SET, SIDE (WHEEL) ROLL, AND HAND MOVE IRRIGATION EQUIPMENT

- Determine hectares covered by sprinkler.
- Fill injector solution tank with water and adjust flow rate to use contents over a
- 10- to 30-minute interval.
- Determine the amount of AIC Plant Defence Formula required to treat area.
- Add the required amount of AIC Plant Defence Formula into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures recommended by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject AIC Plant Defence Formula at the end of the irrigation cycle or as a separate application to maximize foliar AIC Plant Defence Formula retention.
- Stop injection equipment after treatment is completed. Continue to operate the system until AIC Plant Defence Formula in solution has cleared the last sprinkler head.



AERIAL DRIFT REDUCTION ADVISORY INFORMATION

GENERAL

Avoiding spray drift at the application site is the responsibility of the applicator. The interactions of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavourable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

CONTROLLING DROPLET SIZE

Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure: Do not exceed the nozzle manufacturer's recommended pressures.

For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

No. of Nozzles: Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation: Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

BOOM WIDTH

For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 4.5 - 15 kph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 3 mtrs above the ground or the crop canopy.

APPLICATION HEIGHT

Do not make application at a height greater than 10 feetabove the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of theaircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

WIND

Drift potential is lowest between wind speeds of 3 - 15 kph. However, manyfactors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS

Do not apply during a temperature inversion because drift potential is high.

Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions.

Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning.

Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator.

Smoke that layers and moves laterally in a concentration cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

AIC Plant Defence Formula should only be applied when the potential for drift to adjacent sensitive areas is minimal (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquaticand wetland areas, woodlands, pastures, rangelands or animals.

FOR USE ON ORNAMENTALS, TREES, SHRUBS, FLOWERS, BEDDING PLANTS, TROPICAL PLANTS

ORNAMENTALS (Poinsettia, Orchids, Dieffenbachia, Palms, Spathiphyllum, Rhaphiolepis, Aglaonema) FRUIT (Bananas, Mangos, Papaya) SEEDLINGS, CONIFERS (Agricultural, Commercial, Residential Use and Reforestation)

AIC Plant Defence Formula is a protectant biological formula for the use indoors and outdoors for control of certain foliar diseases in the field, greenhouses, interior scape, residential and commercial landscapes, nurseries open or enclosed, shade house environments, seedling production sites, forestry seedling production sites.

AIC Plant Defence Formula can be applied to ornamentals, trees, shrubs, flowers, annual and perennial bedding plants, potted flowers, cut flowers, tropical foliage, container grown trees and shrubs, forestry seedlings, and conifer production for reforestation purposes (greenhouses, shade houses, nurseries, indoors, outdoors, containers or field).

FOLIAR APPLICATION

(Use on Ornamentals, Trees, Shrubs, Flowers, Bedding Plants, Tropical Plants, Seedlings, Conifers)

APPLICATION INSTRUCTIONS

Apply AIC Plant Defence Formula at rates ranging from 3 gram per litre (300 times dilution). Make applications on a 3-day to 10-day schedule. Begin applications when conditions favour aetiology infestation development prior to the onset of aetiology infestation. Under normal conditions apply AIC Plant Defence Formula at a rate of 2 gram per litre (500 times dilution) on a 7-day schedule. When conditions favour severe aetiology infestation development, shorten the spray interval or use a higher rate. Thorough coverage is essential for effective aetiology infestation control. When more diluted or concentrated spray solutions are needed for the type of equipment being used, follow the 'Use Determination' section. See application rate tables for more detailed application instructions.



POST HARVEST DIP USE ON CUT FLOWERS / BUDS

APPLICATION INSTRUCTIONS

For harvest dip applications on cut flower crops, dip cut flowers/buds in a solution containing 10 mls of AIC Plant Defence Formula in 1 litre of water soon after cutting. Immerse flowers for a period sufficient to provide thorough contact between cut flower/bud and the treatment solution. Use higher rates under conditions of heavy aetiology infestation pressure. See application rate tables for more detailed application instructions.

PLANTS EVALUATED FOR PHYTOTOXICITY

AIC Plant Defence Formula has been tested for phytotoxicity on the ornamental species listed below. Since it is impossible to test all of the species and cultivars listed on this label under all conditions it is recommended that a small scale preliminary trial be conducted to check for sensitivity before using this product on a large number of plants, using the product in accordance with all label use directions.

	PLANT LISTING				
	Species				
Annual and Perennial Flowering Plants	Alyssum Asters Azalea Begonia Calla lily Chrysanthemum Cyclamen Dianthus Dwarf Bee-Balm Easter lily Garden phlox Geraniums Gerbera Golden star Hydrangea Impatiens Kalanchoe Linaria Lisianthus Lobelia Marigolds Orchids Pansies Petunia Poinsettia Portulaca Ranunculus Roses Salvia spp. Snapdragons Stock Verbena spp. Vinca Violas Zinnias				
Tropical Foliage	Aglaonema Dieffenbachia Dracaena spp English Ivy Hibiscus Leatherleaf Fern Spathiphyllum				
Trees and Shrubs	Azalea Boxwood Lilac Loropetalum Crape myrtle Dogwood Gumbo azalea India Hawthorn Japanese maple Ligustrum japonicum Photinia Rhododendron Rosaceae spp. Soft Touch Holly Spirea				



RECOMMENDED APPLICATION RATES FOR SELECTED CROPS

NOTE

- AIC Plant Defence Formula has a 0-Day Preharvest Interval for all crops contained on this label.
- Under **Moderate to Severe Aetiology Infestation Pressure**, for improved performance, increase rates and reduce spray intervals or use.
- AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides.

CROPS	AETIOLOGY INFESTATION	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Asparagus	Botrytis Blight Botrytis cinerea	2 - 3	Begin application soon after emergence and when conditions are conducive to aetiology infestation development. Repeat on 7-10 day intervals or as needed. AIC Plant Defence Formula may be applied up to and including the day of harvest.
Berry crops Blueberries Blackberry Raspberry Loganberry Huckleberry Cranberry Gooseberry Elderberry Currant Caneberry Bushberry and other Berry Crops	Mummy Berry Monilinia vaccinii- corymbosi Botrytis Blight Botrytis cinerea Bacterial Canker Pseudomonas spp.	2-3	Mummy Berry - For suppression, begin application at the bud break stage of development and repeat on a 7-10 day interval or as needed. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for mummy berry control. Bacterial Canker - Apply before fall rains and again during dormancy before spring growth. Botrytis Blight - Begin application prior to disease development and repeat on a 7-10 day interval or as needed. For improved performance of AIC Plant Defence Formula, add a surfactant to the spray tank to improve coverage. Cranberries - Make applications to non-flooded fields only. AIC Plant Defence Formula may be applied to fruit up to and including the day of harvest.
Brassica Vegetables (Cole Crops)	Pin Rot Complex Alternaria/Xanthom onas Xanthomonas LeafSpot Xanthamonas campestris Alternaria Leaf	2 - 3	Pin Rot / Downy Mildew - For suppression, begin application when environmental conditions are conducive to rapid aetiology infestation development and repeat on 7-10 day interval or as needed. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for pin rot control.
Cabbage Broccpoil Cauliflower Brussel Sprouts Collards Kale Mustard Greens Kohlrabi and other Brassica Crops	Spot Alternaria spp.Downy Mildew Peronospora parasitica Peronospora spp. Powdery Mildew Erysiphe polygoni		For all other aetiology - Begin application soon after emergence or transplant and when conditions are conducive to aetiology infestation development. Repeat on a 7-10 day interval or as needed.

CROPS	AETIOLOGY INFESTATION	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Bulb Vegetables Onion Garlic Shallots and otherbulb vegetables	Botrytis Neck Rot Botrytis spp. Botrytis Leaf Blight Botrytis squamosa OnionPurple Blotch Alternaria porri Onion Downy Mildew Peronospora destructor Downy Mildew Peronospora spp. Powdery Mildew Erysiphe spp.	2-3	Begin application when environmental conditions are conducive to aetiology infestation development and repeat sprays on 7-10 day intervals or as needed. Apply in sufficient water to provide complete coverage of plants. When conditions are conducive to rapid aetiology infestation development, use AIC Plant Defence Formula in a rotational program with other registered fungicides for Botrytis Neck Rot control.
	Rust Puccinia porri	2-3	For suppression, begin application when conditions are conducive to aetiology infestation development and repeat on a 7-10 day interval or as needed. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for rust control.
Citrus Orange Grapefruit Lemon Tangerin e Tangelo Pummeloand other citrus crops	Greasy spot Mycosphaerella citriPost Bloom Fruit Drop Colletotrichum acutatum Scab Elsinoe fawcetti Melanose Diaporthe citri Alternaria Leaf Spot Alternaria alternata	2 - 3	Greasy spot - For suppression, begin applications at first new foliar flush, and repeat with subsequent new flushes. When conditions are conducive to rapid aetiology infestation development, AIC Plant Defence Formula must be used in a tank mix program with other registered products, such as spray oil or copper-based fungicides, at labeled rates. Post bloom fruit drop – For suppression, begin applications at early bloom and when conditions are conducive to10 aetiology infestation development. Repeat on a 7-10 day interval or as needed. Utilize the shorter spray interval between applications if warm, wet conditions persist. Citrus scab – For suppression, begin applications at first new foliar flush and repeat at petal fall and at ½ inch diameter fruit.
			Melanose – For suppression, begin applications at petal fall and repeat on a 7-10 day interval.
			Alternaria Leaf Spot – Begin applications when environmental conditions and plant stage are conducive to aetiology infestation development. Repeat on 7-10 day intervals or as needed.
			For improved performance on post bloom fruit drop, scab and melanose, use AIC Plant Defence Fomula in a tank mix or rotational program with other registered fungicides.

CROPS	AETIOLOGY INFESTATION	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Corn Sweet Corn Popcorn Seed Corn Silage Corn Field Corn and other corn crops	Common rust Puccinia sorghi Southern Corn Leaf Blight Bipolaris maydis Helminthosporium maydi Cochliobolus heterostrophus	2 - 3	Begin applications when environmental conditions are conducive to aetiology infestation development. Continue applications on 7-10 day intervals or as needed. Use higher rates and shorter applicationintervals under heavy aetiology pressure.
Cucurbits Cucumber Cantaloupe Melon Muskmelon Squash Watermelon and others	Powdery Mildew Erysiphe spp. Sphaerotheca spp. Gummy Stem Blight Didymella bryoniae Phoma cucurbitacearum Downy Mildew Pseudoperonospor acubensis	2-3	Begin applications soon after emergence or transplant and continue on a 7-10 day interval or as needed. When environmental conditions and plant stage are conducive to rapid aetiology infestation development, use AIC Plant Defence Formula in a rotational program with other registered fungicides.
Fruiting Vegetables Pepper Tomato Eggplant Ground Cherry	Bacterial Spot Xanthomonas spp. Target Spot Corynespora cassiicola	2-3	Begin application soon after emergence or transplant and when environmental conditions are conducive to aetiology infestation development. Continue applications on a 5 to 7 day interval or as needed. When conditions are conducive to rapid aetiology infestation development, for improved control, use AIC Plant Defence Formula in a tank mix program with copper-based bacteriacides registered for control of bacterial spot at labeled rates.
Tomatillo Okra and other fruiting vegetables	Bacterial Speck Pseudomonas syringae pv tomato	2-3	Begin application soon after emergence or transplant and when environmental conditions are conducive to aetiology infestation development. Continue applications on a 5 to 7 day interval or as needed. Use higher rates when conditions are conducive to rapid aetiology infestation development.
	Early Blight Alternaria solani Late Blight suppression Phytophthora infestans	2-3	For suppression, begin applications when plants are 4 to 6 inches high.Repeat applications on a 5 to 7 day interval or as needed. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for late blight control. Use shorter spray intervals under conditions conducive to rapid aetiology infestation development.
	Powdery Mildew Leveillula taurica Oidiopsis taurica Erysiphe spp. Sphaerotheca spp.	2-3	For suppression, begin application soon after emergence or transplant when environmental conditions are conducive to aetiology infestation development. Repeat on a 7-10 day interval or as needed. Use maximum label rates under conditions conduciveto rapid aetiology infestation development. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides.
	Gray Mold Botrytis cinerea	2 - 3	Begin applications soon after emergence or transplant and repeat on a7-10 day interval or as needed. When conditions are conducive to aetiology infestation development, use AIC Plant Defence Formula in a rotational program with other registered fungicides.

CROPS	INFESTATION AAETIOLOGY	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Grape	Gray Mold Botrytis cinerea	2-3	Begin applications at bloom, before bunch closure, at verasion and preharvest, up to day of harvest if necessary. Apply in sufficient water to provide thorough coverage. AIC Plant Defence Formula may beapplied to fruit up to and
	Powdery Mildew Uncinula necator	2 - 3	including the day of harvest. Begin application when new shoots are ½ to 1½ inches long. Repeat when shoots are 3 to 5 inches long, when shoots are8 to 10 inches long and then at 7-10 day intervals until aetiology infestation conditions no longer exist. Use high rates and shorterintervals when conditions are conducive to rapid aetiology infestation development. Apply in sufficient water to provide thorough coverage.
	Downy Mildew Plasmopara viticola	2 - 3	For suppression, apply at 10 inch shoot, then at 7-10 dayintervals until bunch closure (berry touch). For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for downy mildew control.
	Phomopsis Phomopsis viticola	2 - 3	Begin applications when shoots are ½ to 1 inch long andrepeat when shoots are 6 to 8 inches long.
	Eutypa Eutypa lata	2 - 3	Apply solution to pruning wounds. Sanitation is critical. All wood from infected plants must be removed from the vineyard and destroyed (either buried or burned).
Нор	Powdery Mildew Sphaerotheca macularis	2 - 3	Use the higher rates when moderate to high aetiology pressure is present or expected. Begin applications when environmental conditions are conducive to rapid aetiology infestation development. Continue sprays at 7 day intervals or as needed.
			Minimum spray volume recommendations for hop growth stages are as follows: Emergence to training: Apply using a minimum spray volume of 50 ltrs per hectare. Coverage will vary with the size of thevines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.
			Training to wire touch: Apply using a minimum spray volume of 50 gallons per acre. Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.
			Wire touch through harvest: Apply in a minimum spray volumeof 50 ltrs per hectare. Higher water volumes may be necessary to achieve thorough coverage after side arms develop.
			Apply adequate spray volume to achieve complete spray coverage.
			Use the higher rates when moderate to high aetiology infestation pressure ispresent or expected.

CROPS	INFESTATION AETIOLOGY	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Leafy Vegetables Lettuce Celery Spinach Parsley	Downy Mildew Bremia lactucae Peronospora spp. Powdery Mildew Erysiphe cichoracearum	2 - 3	For suppression, begin application when conditions are conducive to aetiology infestation development and repeat on 7-10 day intervals or as needed. Apply in sufficient water to ensure complete coverage of entire plant. For improved performance or as a preventative treatment in early crop stages use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides.
Radicchio and other leafy vegetable crops	Pink Rot Sclerotinia sclerotiorum	2 - 3	Begin application approximately 8 weeks before harvest and repeat on a 14 day interval. Apply AIC Plant Defence Formula as a directed spray in sufficient water to ensure thorough coverage of the base of the plants and the surrounding soil surface. Light irrigation following application to incorporate AIC Plant Defence Formula may improve aetiology infestation control.
	Bacterial Blight Xanthomonas campestris	2 - 3	Begin applications when environmental conditions are conducive to aetiology infestation development. Repeat on 7-10 day intervals or asneeded.
	Sclerotinia Head and Leaf Drop Sclerotinia spp.	2 - 3	For control of Sclerotinia head and leaf drop: Apply as a directedspray with multiple nozzles per each seed line in sufficient water to ensure thorough coverage of lower plant leaves and surrounding soil surface within 7 days of thinning or transplanting. Repeat applications on 10 to 14 day intervals if conditions for aetiology infestation development persist. Use higher rates under conditions conducive to moderate to severe aetiology infestation pressure. Light irrigation after application to incorporate the product may improve aetiology infestation control.
Legumes/ Vegetables (succulent and dried beans and peas)	Rust Uromyces appendiculatus	2 - 3	For suppression, begin application soon after emergence or transplant and when conditions are conducive to aetiology infestation development. Repeat on 7-10 day intervals or as needed. When conditions are conducive to aetiology infestation development, for improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides.
Beans Green beans Snap beans Shell beans Soybeans Dry Beans	Rust Puccinia spp.	2-3	Begin applications when environmental conditions and plant stage are conducive to aetiology infestation development. Repeat on 7-10 day intervals or as needed. Use higher rates and shorter application intervals under heavy aetiology infestation pressure.
Garbanzo beans Lima beans Peas Chick peas Split peas Lentils and other legume/ vegetable crops	White Mold (Sclerotinia Stem Rot) Sclerotinia sclerotiorum	2 - 3	Begin application soon after emergence or transplant and when conditions are conducive to aetiology infestation development. Repeat on 7-10 day intervals or as needed. When conditions are conducive to rapid aetiology infestation development use AIC Plant Defence Formula in a rotational program withother registered fungicides.



Mint	Rust	2 - 3	Begin application soon after emergence and when conditions
	Puccinia menthae		are conducive to aetiology infestation development. Repeat on
			7-10 day intervals or as needed. Use higher rates and shorter
			application intervals under heavy aetiology infestation pressure.

CROPS	AETIOLOGY INFESTATION	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Peanut	Early Leaf Spot Cercospera spp. Cercospera arachidicola LateLeaf Spot Cercosporidiu m personatum White Mold Sclerotinia sclerotiorum	2 - 3	Begin applications when environmental conditions are conducive to aetiology infestation development. Repeat applications on 14 day intervals or as needed. For improved control, use AIC Plant Defence Formula in atank mix program with copper-based fungicides registered for control of peanut leaf spot at labeled rates. Peanut hay may be fed to livestock.
Pome Fruit Apple Crabapple Pear Quince Mayhaw and other pome fruit	Fire Blight Erwinia amylovora	2 - 3	For suppression begin application at 1 – 5% bloom and repeatas necessary to protect open, untreated blossoms when conditions favoring aetiology infestation development are likely to occur. For maximum control, use AIC Plant Defence Formula prior to and as close as possible to fire blight infection events. During periods of rapid bloom development and frequent infection periods, spray intervals of 3 to 7 days may be required. After petal fall, continue applications on a 7day interval while environmental conditions favor development. Apply in sufficient water to provide full coverage aetiology infestation. For improved performance, use AIC Plant Defence Formula in a rotational program with antibiotics registered for fire blight control such as but not limited to oxytetracycline or streptomycin.
	Brooks Spot** Mycosphaerella pomi Cedar Apple Rust** Gymnosporangium juniperi- virginianae Flyspeck** Schizothyrium pomi Sooty Blotch** Gloeodes pomigena	2 - 3	For control of Brooks Spot, Cedar Apple Rust, Flyspeck, Sooty Blotch, Bot Rot, Bitter Rot and Bull's Eye Rot: Begin applications pre-bloom when environmental conditions are conducive to aetiology infestation development. Repeat applications at 7-14 day intervals or as needed. Apply in sufficient spray volume to ensure thorough coverage. Use higher application rates and shorter spray intervals when conditions are conducive to rapid aetiology infestation development or heavy aetiology infestation pressure. For improved performance of AIC Plant Defence Formula add a surfactant, known to be safe to the target crop, to the spray tank to improve coverage and wetting of plant surfaces. AIC Plant Defence Formula may be applied up to and including the day of harvest (0-day PHI).
	Scab Venturia spp.	2 - 3	For suppression, begin applications at green tip or when environmental conditions become favorable for primary scab development and repeat on 7-10 day intervals or as needed. When environmental conditions are conducive to rapid aetiology infestation development, for improved performance use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides.

Powdery Mildew Podosphaera leucotricha	2 - 3	Begin application at tight cluster, or sooner, if conditions are conducive to aetiology infestation development. Repeat applications through the second cover spray on 7-10 day intervals. Additional sprays beyond second cover may be needed on susceptible varieties or when environmental conditions are conducive to rapid aetiology infestation development. Use high label rateand shorter spray intervals when conditions are conducive to rapid aetiology development.
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CROPS	INFESTATION AETIOLOGY	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Root / Tuber andCorm Vegetables Carrot Potato Sweet Potato CASSAva	Black RootRot / BlackCrown Rot Alternaria spp.	2-3	Begin applications soon after emergence or transplant and when conditions are conducive to rapid aetiology infestation development. Repeat on a 7-10 day interval or as needed. Use high rates and shorter intervals when conditions are conducive to rapid aetiology infestation development. Apply in sufficient water to provide thorough coverage.
Beets Ginger Horseradish Radish Gingseng Turnip and other root/ tuber and corm crops	Bacterial Leaf Blight Xanthomonas campestris Downy Mildew Peronospora spp. Powdery Mildew Erysiphe spp. White Mold Sclerotinia sclerotiorum Gray Mold Botrytis spp.	2-3	Begin application soon after emergence or transplant and when conditions are conducive to aetiology infestation development. Repeat on a7-10 day interval or as needed. Use high rates and shorter intervals when conditions are conducive to rapid aetiology infestation development. Apply in sufficient water to provide thorough coverage.
	Early Blight Alternaria solaniLate Blight suppression Phytophthora infestans	2-3	For suppression, begin application soon after emergence and when conditions are conducive to aetiology infestation development. Repeaton a 5 to 7 day interval or as needed. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for late blight control.

Stone Fruit

Apricot Cherry Nectarine Peach Plum Prune and other stone fruit crops

Powdery Mildew

Sphaerotheca parnnosa Podosphaera clandestine Podosphaera spp. Bacterial Canker

Pseudomonas spp.
Brown Rot Blossom

Blight

Monolinia laxa Fruit

Brown Rot suppression Monilinia

fruticola Gray
moldBotrytis
cinerea

Bacterial Leaf Spot/Bacterial Spot**

Xanthomonas arboricola

2 - 3

Brown Rot Blossom Blight - Begin application at early bloom and repeat through petal fall on a 7 day interval or as needed.

Bacterial Canker – Apply post-harvest before fall rains and again during dormancy before spring growth.

Powdery Mildew - For suppression, begin application at popcorn stage and repeat on a 7 day interval or as needed. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for powdery mildew control.

Bacterial Leaf Spot/Bacterial Spot - Begin applications at bud break and continue on a 7 to 14 day schedule or as needed until harvest. During periods of rapid aetiology infestation development andfrequent infection periods, use AIC Plant Defence Formula in a program with other registered antibiotics and/or copper bactericides. For the improved performance of AIC Plant Defence Formula, add a surfactant to the spray tank to improve coverage. For all other aetiology infestation — Begin application prior to aetiology infestation development when environmental conditions and plant stage are conducive to rapid infestation development and repeat on a 7-10 day interval or as needed. Use higher rates and shorter application intervalsunder heavy infestation disease pressure. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides.

CROPS	AETIOLOGY INFESTATION	RATE (grams/litre)	APPLICATION INSTRUCTIONS
Strawberry	Powdery Mildew Sphaerotheca macularis Erysiphespp. Anthracnose Colletotrichum acutatum BotrytisBotrytis cinerea Gray Mold Botrytis spp.	2-3	Botrytis/Powdery mildew - For suppression, begin application at or before flowering and repeat on 7-10 day intervals or as needed through harvest. Use higher rates and shorter application intervals under heavy aetiology infestation pressure. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides for powdery mildew and botrytis control. Anthracnose – Begin application prior to aetiology infestation development and repeat on 7-10 day intervals or as needed. Use higher rates an shorter application intervals under heavy aetiology infestation pressure. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicide.
			AIC Plant Defence Formula may be applied up to and including the day of harvest.
Tree Nuts Almond Pistachio Pecan Walnut Filberts Chestnut Cashew Beechnut Butternut Macadamia and other tree nut crops	Walnut Blight Xanthomonas campestris Anthracnose suppression Colletotrichum acutatum Bacterial Canker Pseudomonas syringae Brown Rot suppression Monilinia spp.	2-3	Walnut Blight – Begin application no later than pistillate bloom and repeat on 7-10 day intervals or as needed. Apply in advance of rain for maximum protection. When conditions are conducive to rapid aetiology infestation development, for improved control, use AIC Plant Defence Formula in a tank-mix or rotational program with a copper-based bactericide registered for control of walnut blight. For all other aetiology infestation – Begin application prior to aetiology infestation development and repeat on 7-10 day intervals or as needed. Use higher rates and shorter application intervals under heavy aetiology infestation pressure. For improved performance, use AIC Plant Defence Formula in a tank mix or rotational program with other registered fungicides.
Tropical Fruits Avocado Bananas Plantains Mango Papaya Pineapple and other tropical	Anthracnose Colletotrichum gloeosporioides Colletotrichum ananasBacterial Canker Xanthomonas campestris	2 - 3	Avocado/Mango – Begin application at budbreak and repeat on a 14 - 21 day interval or as needed through harvest. Papaya/Pineapple – Begin application at flowering and repeaton a 14 - 21 day interval or as needed through harvest. Bacterial Canker – Begin applications when environmental conditions are conducive to aetiology infestation development. Repeat on 7-10 day intervals or as needed.
fruits	Sigatoka Mycosphaerella fijiensis	2-3	Begin application when leaves first appear and repeat on a 7 to 21 day interval or as needed. Apply in sufficient waterto obtain thorough coverage of foliage. For improved aetiology infestation control, AIC Plant Defence Formula may be tank-mixed with oil or other fungicides registered for control of Sigatoka at labeled rates. When conditions are conducive to rapid aetiology infestation development and/or heavy aetiology infestation pressure, higher application rates and rotational spray programs with other fungicides registered for control of Sigatoka are recommended.
Watercress	Cercospora leafspot Cercospora spp.	2 - 3	Begin applications when conditions are conducive to aetiology infestation development. Continue applications on 7-10 day intervals or as needed.



AIC PLANT DEFENCE FORMULA PRODUCT COMPATIBILITY

(FUNGICIDES, BACTERICIDES, BIOCIDES, HERBICIDES, INSECTICIDES, PLANT GROWTH REGULATORS (PGRS))

FUNGICIDES				
Active Ingredients	Compatibility	Active Ingredients	Compatibility	
Aluminum tris	V	Carboxin	✓	
Azoxystrobin	V	Chlorothalonil	✓	
Azoxystrobin and Benzobindiflupyr	V	Chromobacterium subtsugae	V	
Bacillus amyloliquefaciens	X (1 day apart)	Copper sulfate	X (1 day apart)	
Bacillus licheniformis	V	Cyazofamid	✓	
Bacillus subtilis	X (1 day apart)	Dicloran	X (1 day apart)	
Benomy	X (14 days apart)	Didecyldimethyl ammonium chloride	X (14 days apart)	
Boscalid and Pyraclostrobin	V	Dimethomorph	✓	
Captan	X (1 day apart)	Etridiazole and thiophanate- methy	V	
Etridiazole	X (1 day apart)	Fenamidone	✓	
Fenarimol	X (1 day apart)	Fludioxonil	✓	
Fluopicolide	X (1 day apart)	Flutolanil	X (1 day apart)	
Flutriafol	X (14 days apart)	lmazalil	X (14 days apart)	
Iprodione	X (1 day apart)	Mancozeb	X (1 day apart)	
Maneb	X (1 day apart)	Mefenoxam	✓	
Mefenoxam and fludioxonil	V	Metalaxyl	X (1 day apart)	
Myclobutanil	X (1 day apart)	Oxathiapiprolin and mefenoxam	V	

BACTERICIDES		
Active Ingredients	Compatibility	
Agrobacterium radiobacter strain K84	✓	
Streptomycin sulfate	✓	

BIOCIDES		
Active Ingredients	Compatibility	
Chlorine dioxide	x	
Didecyldimethyl ammonium chloride	X	
Halogenated heterocyclic	x	
Hydrogen Peroxide/Hydrogen Dioxide	X	
Hydrogen dioxide/ peroxyacetic acid	Х	

HERBICIDES		
Active Ingredients	Compatibility	
Glyphosate	х	
Napropamide	х	
Pendimethalin	х	

INSECTICIDES				
Active Ingredients	Compatibility	Active Ingredients	Compatibility	
Acephate	X (1 day apart)	Azadirachtin	√	
Bacillus thuringiensis israelensis	X (1 day apart)	Beauveria bassiana	√	
Carbaryl	X (1 day apart)	Chlorpyrifos	X (1 day apart)	
Cyantraniliprole	V	Cyromazine	V	
Diazinon	X (1 day apart)	Dicofol	X (1 day apart)	
Dinotefuran	V	Burkholderia	V	
Imidacloprid	X (1 day apart))	Isaria fumosorosae Apopka	√	
Malathion	X (1 day apart)	Pyrethrins	V	
Soybean Oil and Sodium Lauryl Sulfate	X (14 days apart)	Spirotetramat	V	
Steinernema feltiae	X (1 day apart)	Heterorhabditis bacteriophora	√	
Thiamethoxam	√	Lactic Acid	V	



PLANT GROWTH REGULATORS (PGRS)		
Active Ingredients	Compatibility	
Ancymidol	X (1 day apart)	
Chlormequat chloride	X (1 day apart)	
Diaminozide	X (1 day apart)	
Flurprimidol	X (1 day apart)	
Paclobutrazol	X (1 day apart)	
Uniconazole	X (1 day apart)	

STORAGE AND DISPOSAL

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

AIC PLANT DEFENCE FORMULA STORAGE

Store in a cool, dry place, out of direct sunlight, and away from heat sources for up to 18 months. Keep from overheating.

AIC PLANT DEFENCE FORMULA DISPOSAL

To avoid waste, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or Pesticide disposal program (often such programs are run by state or local governments or by industry).

CONTAINER HANDLING

Non-refillable container. Do not re-use or refill this container. Completely empty drum into application equipment. Then offer for recycling if available or dispose of empty drum in a sanitary landfill. Do not burn.

NOTICE TO BUYER AND SELLER

Seller warrants that this product conforms to the description on the label and is reasonably fit for the purposes stated on the label when used and stored in accordance with directions under normal conditions of use. To the extent permitted by state law, this warranty does not extend to use of this product contrary to label directions or under conditions not reasonably foreseeable by the Seller, and Buyer and User assume the risk of any such use. To the extent permitted by state law, Seller disclaims all other warranties express or implied, including any warranty of fitness or merchantability. To the extent permitted by state law, Seller shall not be liable for consequential, special or indirect damages resulting from use or handling of this product and Seller's sole liability and Buyer's and user's exclusive remedy shall be limited to refund of the purchase price. This product is sold only for uses stated on its label. No express or implied license is granted to use or sell this product under any patent in any country except as specified by CASSA AgriTec (A division of CASSA BioTec Pty Ltd).