PYRIPROXYFEN | GROUP 7 | INSECTICIDE

DEFIANCE™ 0.86 EC

Contains pyriproxyfen, the active ingredient used in Distance® IGR.

ACTIVE INGREDIENT:	By Weight
Pyriproxyfen	11.23%
OTHER INGREDIENTS:	88.77%
TOTAL:	100.00%

(2-[1-methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine)

Contains 0.86 pound ai per gallon.

Contains aromatic petroleum distillates.

EPA Reg. No.: 91234-58

KEEP OUT OF REACH OF CHILDREN

CAUTION

See inside label booklet for additional Precautionary Statements and Directions for Use.

FIRST AID	
If on skin:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for further treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If swallowed:	• Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency medical assistance, call SafetyCall: **1-844-685-9173**. For additional information on this pesticide product (including pesticide incidents), you may call CHEMTREC at **1-800-424-9300**, 24 hours per day, 7 days per week.	
NOTE TO PHYSICIAN: If ingested, probable mucosal damage may contraindicate the use of gastric lavage. This product contains a light hydrocarbon liquid; ingestion or subsequent vomiting can result in aspiration of this product, which can cause pneumonitis.	

Defiance™ 0.86 EC is not manufactured, or distributed by Valent U.S.A. Corporation, seller of Distance® IGR.

Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Causes skin and eye irritation. Do not get on skin, in eyes or on clothing. Harmful if inhaled, swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants or long-sleeved shirt and long pants,
- Chemical-resistant gloves, such as Barrier Laminate or Viton ≥ 14 mils,
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear for overhead exposure,
- Chemical-resistant apron when cleaning equipment, mixing or loading.

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.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by disposing of equipment washwaters or rinsate. Avoid direct application and/or spray drift to bee hives.

DIRECTIONS FOR USE

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

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 (WPS), 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE), and Restricted-Entry Interval (REI). 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 12 hours.

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 over short-sleeved shirt and short pants,
- Chemical-resistant gloves, such as Barrier Laminate or Viton ≥ 14 mils,
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear for overhead exposure.

NON-AGRICULTURAL USE REQUIREMENTS

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

Keep unprotected persons out of treated areas until sprays have dried.

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.

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.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance-management, **Defiance 0.86 EC** contains a Group 7 insecticide. Any insect population may contain individuals naturally resistant to **Defiance 0.86 EC** and other Group 7 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of **Defiance 0.86 EC** or other Group 7 insecticides within a growing season, or among growing seasons, with different groups that control the same pests. Avoid application of more than the maximum seasonal use rate or the total number of consecutive sprays of **Defiance 0.86 EC** per season.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or IPM recommendations for the specific site and pest problems in your area.

SPRAY DRIFT

Aerial Applications

- Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a fine or coarser droplet size (ASABE S572.1), except for when applying ultra-low volume applications.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

Airblast Applications

- All sprays must be directed into the canopy.
- Nozzles directed out of the orchard must be turned off when treating the outer row, or when making turns between rows.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

Groundboom Applications

- User must only apply with the nozzle height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a fine or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

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 manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

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.

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 an 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.

PRODUCT INFORMATION

For control of insects including whiteflies, scales, shore flies and fungus gnats in indoor (greenhouse, lath and shadehouse and interiorscapes) and outdoor ornamentals, including flowering and foliage crops, ground covers, shrubs and ornamental trees, non-bearing fruit and nut trees, and indoor grown fruiting vegetables.

Defiance 0.86 EC affects all pest insect life stages, including eggs, nymphs/larvae, pupae and adults. **Defiance 0.86 EC** does not control adults, but greatly reduces their production of viable eggs due to its strong transovarial activity. In whitefly, transovarial activity begins within one day after adults contact or ingest **Defiance 0.86 EC** residues. **Defiance 0.86 EC** is also ovicidal and inhibits metamorphosis of nymphs, larvae and pupae into adults. Since **Defiance 0.86 EC** is an Insect Growth Regulator (IGR), activity depends on the insect's development. Therefore, evidence of activity may be slower than with typical contact insecticides, especially when large numbers of late instars are present at time of application.

Defiance 0.86 EC also has strong translaminar activity on a variety of ornamental plants, including poinsettia, hibiscus, gerbera, daisy, and chrysanthemums. **Defiance 0.86 EC** residues applied to the upper leaf surface will rapidly penetrate the leaf cuticle, and can subsequently be ingested by immature and adult insects feeding on the lower leaf surface (e.g., whitefly). Therefore, even in cases where it is difficult to achieve thorough under leaf spray coverage, **Defiance 0.86 EC** can still provide highly effective control.

Defiance 0.86 EC is intended for use in Integrated Pest Management (IPM) or Insect Resistance Management (IRM) programs. Defiance 0.86 EC will not control adult insects, and it is recommended to be used in combination and/or rotation with other IPM or IRM materials. Contact your local state extension service for details.

PLANT TOLERANCE

IMPORTANT

The large number of existing ornamental varieties and cultivars coupled with the constant introduction of new varieties makes it impossible to field test **Defiance 0.86 EC** in every locale where sold or in all of the combinations created by these differences. These differences include the soil or media type, pH moisture or fertility, environmental conditions such as temperature, lighting or degree-days and horticultural practice and the manner of use and application of this product.

To ensure that **Defiance 0.86 EC** is compatible with the variety or cultivar under your specific conditions, test the product on a limited scale and observe for phytotoxicity for two weeks before making large scale applications. Phytotoxicity has been observed on the following plants: Salvia *(Salvia* spp.*)*, Ghost Plant *(Graptopetalum paraguayense)*, Boston Fern *(Nephrolepis exaltata)*, Schefflera *(Schefflera* spp.*)*, Gardenia *(Gardenia* spp.*)*, and Coral Bells *(Heuchera sanguinea)*. It is therefore recommended that **Defiance 0.86 EC** not be used on these plants. Do not apply to Poinsettia after bract formation.

MIXING INSTRUCTIONS

Prepare no more spray mixture than is necessary for the immediate operation. Thoroughly clean spray equipment before using this product. Agitate thoroughly before and during application. Flush spray tank thoroughly with clean water daily after use and dispose of pesticide rinsate by application to a previously treated area. Add 1/2 to 2/3 of the required amount of water to the spray or mix tank. With the agitator running, add the required amount of **Defiance 0.86 EC**. Continue agitation while adding the remainder of the water. Begin application of the spray solution after **Defiance 0.86 EC** has been added and completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Conversion Chart

Gallons of Mixture*									
Rate/100 Gals		Rate/50 Gals		Rate/25 Gals		Rate/10 Gals		Rate/5 Gals	
oz	ml	oz	ml	oz	ml	oz	ml	oz	ml
2	59	1	30	0.5	15	0.2	5.9	0.1	3.0
3	89	1.5	44	0.75	22	0.3	8.9	0.15	4.4
4	118	2	59	1.0	30	0.4	11.8	0.2	5.9
5	148	2.5	74	1.25	37	0.5	14.8	0.25	7.4
6	177	3	89	1.5	44	0.6	17.7	0.3	8.9
8	237	4	118	2.0	59	0.8	23.7	0.4	11.8
10	296	5	148	2.5	74	1.0	30.0	0.5	14.8
12	355	6	177	3.0	89	1.2	35.5	0.6	17.7

* Determine the rate per 100 gallons from **Table 1**. Follow the proper rate across the row to determine how much to add for mixtures less than 100 gals.

COMPATIBILITY

Defiance 0.86 EC is compatible with most commonly used insecticides, fungicides and spray adjuvants used in the production of ornamental plants. When using **Defiance 0.86 EC** in tank mixes with other pesticides, observe all directions for use and precautions on the respective tank mix label. When making an application of a tank mix for the first time, it is recommended that a few plants be treated and observed for phytotoxicity for two to four weeks before making large scale applications.

LOW VOLUME SYSTEMS

Defiance 0.86 EC has been evaluated and shown to be effective for foliar applications when applied through Electrostatic Spraying Systems, PulsFOG® Systems or other low volume systems. To calculate the amount of product to be applied, use the appropriate amount of **Defiance 0.86 EC** for the square footage to be treated with spray as listed. The amount of carrier (water) is dependent on the amount needed for adequate coverage. Do not use low volume systems to control soil-inhibiting insects such as fungus gnats and shore flies.

APPLICATION INSTRUCTIONS FOR USE IN IRRIGATION SYSTEMS

California: Do not apply this product through any type of irrigation system.

Important: First time users of **Defiance 0.86 EC** through irrigation systems should make an application to a small area with only a few plants present to ensure that the irrigation system is delivering a uniform, even application across the application area.

Chemigation: Do not apply **Defiance 0.86 EC** through any type of irrigation system when applying for control of foliar insects. **Defiance 0.86 EC** may be applied through overhead irrigation at rates recommended in this label to provide proper coverage of all surfaces when treating for fungus, gnats and shore flies. Overhead irrigation systems include overhead sprinklers such as impact or micro-sprinklers, mist-type irrigation such as fog systems and hand-held calibrated irrigation equipment such as a hand-held wand with injector. Do not apply this product through any other type of irrigation system. Plant injury or lack of effectiveness, or illegal pesticide residues in a crop can result from non-uniform distribution of treated water. If you have questions about calibration, contact either State Extension Specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications 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 to make necessary adjustments should the need arise.

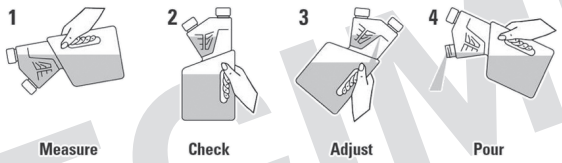
Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

Operation Instructions

1. 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. 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.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment. Avoid spray overlap, as injury may result.
8. Prepare a minimum mixture of 1 gal of water with the desired rate of **Defiance 0.86 EC** and inject this mixture into the system. Injecting a larger volume of a more dilute mixture will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep **Defiance 0.86 EC** in suspension.
9. Meter into irrigation water during the beginning of the irrigation cycle. It is important to continue running the system after the **Defiance 0.86 EC** application is finished to remove all the product from the foliage and get it into the areas where the immature insect stages are located.

Systems Connected to Public Water Systems

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced pressure zone, backflow 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 systems should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where the pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.



Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

TABLE 1

Directions For Use on Shrubs, Ornamentals, Flowering Plants, Foliage Plants, Ground Covers, Ornamental Trees, Non-Bearing Fruit, Nut Trees and Vines

Pests	Rates	Application Method	Instructions
Aphids (suppression) Western Flower Thrips (suppression) Whiteflies including Greenhouse Whitefly Silverleaf Whitefly Sweetpotato Whitefly	6 to 8 fl oz/ 100 gals	**Foliar Spray** 100 gals of spray mix will treat 20,000 sq ft of area.	Apply the spray mixture uniformly to all plant surfaces and to the point of runoff. Make first application when adult insects begin to appear. If necessary, make a second application from 14 to 28 days after the first application. If an additional application is needed less than 14 days after the first treatment, use an IGR (Insect Growth Regulator) with another mode of action of another chemical class of insecticide. Use lower rate and longer interval for newly established infestations and when plants are not rapidly flushing new growth. Use higher rates and shorter interval for established infestations and/or when plants are rapidly flushing new growth. Apply no more than two times per cropping cycle or no more than two times per six months. If rapid control of adult insects is required, apply a labeled adulticide.
Mealybugs (suppression) Scale including Black Scale California Red Scale Euonymus Scale Florida Wax Scale San Jose Scale Snow Scale Spotted Tentiform Leafminer	8 to 12 fl oz/ 100 gals		Apply the spray mixture uniformly to all plant surfaces and to the point of runoff. Target crawler stage when treating infestations of scale.

NOTE: Since ornamental varieties are numerous, constantly changing, and may react differently to **Defiance 0.86 EC** and tank mixtures including **Defiance 0.86 EC**, test the product(s) on a small scale before making large-scale applications. Phytotoxicity has been observed on the following plants: Salvia *(Salvia* spp.*)*, Ghost Plant *(Graptopetalum paraguayense)*, Boston Fern *(Nephrolepis exaltata)*, Schefflera *(Schefflera* spp.*)*, Gardenia *(Gardenia* spp.*)*, and Coral Bells *(Heuchera sanguinea)*. It is therefore recommended that **Defiance 0.86 EC** not be used on these plants. **Restriction:** DO NOT APPLY TO POINSETTIA AFTER BRACT FORMATION.

TABLE 2

Directions For Use on Shrubs, Ornamentals, Flowering Plants, Foliage Plants, Ground Covers, Ornamental Trees, Non Bearing Fruit, Nut Trees and Vines

Pests	Rates	Application Method	Instructions
Fungus Gnats Shore Flies	3 to 6 fl oz/ 100 gals	**Sprench** 100 gals of spray mix will treat 5,000 sq ft of area.	For the control of fungus gnats and shore flies, apply to potting media as a heavy coarse spray (sprench) through conventional equipment to all insect infested surfaces or where insects may breed. Complete coverage of infested areas is essential for control. For optimal control, treat breeding areas under benches at the same time that the crop is treated. For best results, apply when the soil is moist. **Broadcast Application to Soil Surface** For bed, bench, and container grown plants, apply **Defiance 0.86 EC** as a coarse spray or sprench to the soil surface. Mix 3 to 6 fl oz of **Defiance 0.86 EC** in 100 gals of water and apply to the soil surface at a volume of 2 to 3 gals of final spray solution per 100 sq ft of area. If a second application of **Defiance 0.86 EC** is needed, allow a minimum of 21 days between applications.
	2 fl oz/100 gals	**Drench** Saturate only the top 1" to 1.5" of soil.	**Important:** For drench applications to Poinsettia, see special use instructions below. For the control of fungus gnats and shore flies, apply to potting media as a drench application through conventional equipment. For optimal control, apply additional amounts of spray solution to breeding areas under benches at the same time that the crop is treated. For best results, apply when the soil is moist. **Drench Application to Soil Surface of Individual Containers** Mix 2 fl oz of **Defiance 0.86 EC** in 100 gals of water and evenly apply to surface of potting media to ensure uniform treatment. Apply 3 fl oz of finished solution per 6-inch pot. Adjust volume accordingly for smaller or larger pots (see drench mixing chart below). **Do not saturate potting media with drench solution,** only the top 1" to 1.5" of soil needs to be drenched in order to achieve effective control. Do not drench plants more than one time per crop cycle.

Pot Diameter (inches)	Drench Volume (fl oz/pot)	Rate/100 Gals (fl oz)
4	1	2
5	2	2
6	3	2
8	5	2
10	7	2
12	10	2

NOTE: Since ornamental varieties are numerous, constantly changing, and may react differently to **Defiance 0.86 EC** and tank mixtures including **Defiance 0.86 EC**, test the product(s) on a small scale before making large-scale applications. Phytotoxicity has been observed on the following plants: Salvia *(Salvia* spp.*)*, Ghost Plant *(Graptopetalum paraguayense)*, Boston Fern *(Nephrolepis exaltata)*, Schefflera *(Schefflera* spp.*)*, Gardenia *(Gardenia* spp.*)*, and Coral Bells *(Heuchera sanguinea)*. It is therefore recommended that **Defiance 0.86 EC** not be used on these plants.

Drench Application to Individual Pots of Poinsettia: In a few instances, malformation of roots and newly expanded leaves (i.e., cupping) has been observed on certain Poinsettia varieties (i.e., Freedom Bright, Freedom Bright Red, Winter Rose and Jingle Bells) following drench application of **Defiance 0.86 EC**. Leaf malformation was more commonly observed on plants exposed to high air temperatures and on plants whose soil media was allowed to dry out following application, such as those along walkways or near doorways. Malformation of affected leaves was permanent, but new growth was unaffected after plants were hydrated. Malformed leaves were generally not evident at time of shipment. To minimize the risk of leaf malformation when drenching Poinsettia with **Defiance 0.86 EC**:

- Do not saturate the potting media with **Defiance 0.86 EC** drench solution. Apply only enough solution to saturate the top 1" to 1.5" of media (ex., no more than 3 oz solution per 6" pot). Do not mix more than 2 oz of **Defiance 0.86 EC** per 100 gals of water.
- Ensure that soil media remains uniformly moist and avoid exposing plant to high temperatures during and following drench application of **Defiance 0.86 EC**. If leaf malformation is noted, thoroughly water affected plants and, if necessary, move these plants to an area of the greenhouse with higher humidity.
- Do not drench individual Poinsettia with **Defiance 0.86 EC** more than one time per crop cycle.
- DO NOT APPLY TO POINSETTIA AFTER BRACT FORMATION.

TABLE 3

Directions For Use on Indoor Grown Fruiting Vegetables

Pests	Rates	Application Method	Instructions
Aphids (suppression) Western Flower Thrips (suppression) Whiteflies including Greenhouse Whitefly Silverleaf Whitefly Sweetpotato Whitefly	6 fl ozs/100 gals	**Foliar Spray** 100 gals of spray mix will treat 20,000 sq ft of area.	Apply the spray mixture uniformly to all plant surfaces and to the point of runoff. Make first application when adult insects begin to appear. If necessary, make a second application from 14 to 28 days after the first application. If an additional application is needed less than 14 days after the first treatment, use an IGR (Insect Growth Regulator) with another mode of action of another chemical class of insecticide. Apply no more than two times per cropping cycle or no more than two times per six months. If rapid control of adult insects is required, apply a labeled adulticide.
Fungus Gnats Shore Flies	3 to 6 fl oz/100 gals	**Sprench** 100 gals of spray mix will treat 5,000 sq ft of area.	For the control of fungus gnats and shore flies, apply to potting media as a heavy coarse spray (sprench) through conventional equipment to all insect infested surfaces or where insects may breed. Complete coverage of infested areas is essential for control. For optimal control, treat breeding areas under benches at the same time that the crop is treated. The soil surface should be moist at the time of application. **Broadcast Application to Soil Surface** For bed, bench, and container grown plants, apply **Defiance 0.86 EC** as a coarse spray or sprench to the soil surface. Mix 3 to 6 fl oz of **Defiance 0.86 EC** in 100 gals of water and apply to the soil surface at a volume of 2 to 3 gals of final spray solution per 100 sq ft of area. If a second application of **Defiance 0.86 EC** is needed, allow a minimum of 21 days between applications. Apply no more than two times per cropping cycle or no more than two times per six months.
	2 fl oz/100 gals	**Drench** Saturate only the top 1" to 1.5" of soil.	For the control of fungus gnats and shore flies, apply to potting media as a drench application through conventional equipment. For optimal control, apply additional amounts of spray solution to breeding areas under benches at the same time that the crop is treated. The soil surface should be moist at the time of application. **Drench Application to Soil Surface of Individual Containers** Mix 2 fl oz of **Defiance 0.86 EC** in 100 gals of water and evenly apply to surface of potting media to ensure uniform treatment. Apply 3 fl oz of finished solution per 6-inch pot. Adjust volume accordingly for smaller or larger pots (see drench mixing chart below). **Do not saturate potting media with drench solution,** only the top 1" to 1.5" of soil needs to be drenched in order to achieve effective control. Do not drench plants more than one time per crop cycle.

Pot Diameter(inches)	Drench Volume (fl oz/pot)	Rate/100 Gals (fl oz)
4	1	2
5	2	2
6	3	2
8	5	2
10	7	2
12	10	2

NOTE: Since fruiting vegetable varieties are numerous, constantly changing and may react differently to **Defiance 0.86 EC** and tank mixtures including **Defiance 0.86 EC**, test the product(s) on a small scale before making large-scale applications.

- Do not apply to tomato varieties less than 1 inch in diameter.
- Do not apply to non-bell peppers.
- Do not apply within one (1) day of harvest.
- Do not make more than two (2) **Defiance 0.86 EC** applications per season.
- Do not exceed 13 fl oz of **Defiance 0.86 EC** per acre per application.
- Regardless of formulation, do not apply more than 0.176 lb ai of pyriproxyfen per acre per season.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry place. Keep pesticide in original container. Keep container closed when not in use. Do not put concentrate or dilute into food or drink containers. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING: [Non-refillable containers ≤ 5 gallons] Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. 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.

[Non-refillable containers > 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. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. 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.

Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

Conditions of Sale and Limitation of Warranty and Liability

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials, resistant strains or other influencing factors in the use of the product, which are beyond the control of Atticus, LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Atticus, LLC and Seller harmless for any claims relating to such factors.

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

To the extent allowed by applicable laws, in no event shall Atticus, LLC or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT ALLOWABLE BY APPLICABLE LAW THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ATTICUS, LLC 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 ATTICUS, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

Atticus, LLC and Seller offer this product, and Buyer and User accept it, subject to foregoing conditions of sale and limitations or warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of Atticus, LLC.

F20210127ap1

Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513