



**ENVIRONMENTAL
PLANT MANAGEMENT™**
SCIENCE IN STEP WITH NATURE

Protection Plus®

Protection Plus Pesticide Quick Reference Manual (Revision #6)

Storage: Do not store Protection Plus® in a diluted state. Store in a cool location, away from direct sunlight. Do not freeze. Store in a safe place away from children and pets. Use within 1 year after opening container.

Container Disposal: Discard to an appropriate landfill. Recycle when possible. Call your local solid waste agency for instructions if the container is partially full. Never pour unused product down drains. Do not reuse container.

Precautionary Statements

Equipment: Use protective eyewear, gloves, and mask.

First Aid: If ingested, drink plenty of water. If inhaled, seek fresh air. If contact with eyes occur, rinse eyes with water for 15 minutes. Wash skin with soap and water after contact. Seek medical attention if swallowed, breathing or eye irritation persists, or an allergic reaction occurs.

Suitable for use on all food crops and ornamental plants.

Contents:	By Weight
Active Ingredients: Citric Acid	0.22%
Inert Ingredients: Water, Yeast, Soap, Sodium Benzoate, Potassium Sorbate	99.78%
Total	100.00%

This product is exempt from registration with the US Environmental Protection Agency under FIFRA section 25(b) as a minimum risk pesticide.



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EARTH FRIENDLY
ALTERNATIVE TO HARSH CHEMICALS

Protection Plus® Insecticide & Fungicide

Kills larvae & adult insects

**HIGH KILL RATE ON
1ST APPLICATION**


**98%
Russet Mites**


**98%
Aphids**


**100%
Whiteflies**


**90%
Thrips**


**89%
Spider Mites**


**Powdery
Mildew**

Net Contents: 32 Fluid Ounces **CONCENTRATE** (1 Quart) 946.353ml
32 oz concentrate = 16 gallons of standard strength spray
Caution: Keep out of reach of children.

Recommended Dosage

Standard Strength: Add ½ fl. oz. or 1 Tbls to 1 quart of water or 2 fl. oz. to 1 gallon of water.

Extra Strength: Add 1 fl. oz. or 2 Tbls to 1 quart of water or 4 fl. oz. to 1 gallon of water.

Directions for use

- Pre-application Directions:** Shake or agitate container to mix.
- Plants in Pots:** Water the plant's soil well with good runoff to reduce fertilizer levels before each application. Allow the plant time to hydrate before spraying leaves and stems. No need to turn Fluorescent or LED lighting down before spraying.
- Plants in the Ground:** Water the plant's soil well. Apply early or late in the day. Avoid spraying mid-day.

Apply using a handheld or tank sprayer.
Can be applied using a misting device.

Application Directions: Water the plant's soil well with good runoff to reduce fertilizer levels. Spray Protection Plus® on plant leaves and stems. When spraying Protection Plus®, coat the leaves and stem completely with a slight run-off. May be applied up to harvest. Spray and let dry between applications or releasing beneficial insects. Mix and spray the same day. Thoroughly sanitize spray equipment before and after each application.

Normal: Apply once a day every three days until pests are controlled.

Extreme Infestation: Apply twice a day every three days until pests are controlled.

Preventative Applications: Apply every 7-10 days to help prevent infestations from incoming insects and powdery mildew.



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Specific Insect Control Information

Russet Mites	
Spider Mites	
Thrips	
Aphids (Leaf)	
Aphids (Root)	
Gnats	
Whitefly	
Scorpions	
Spiders	
Ants	
Powdery Mildew	
Predatory Insects Use in Integrated Pest Management	



% Of Insect Kill on 1st Application (Independent Research Lab Results)

Adolescent mites (Russet, Broad, Spider, etc.) and most adult pests will die quickly. Having said that, *insects that have **not been coated properly with** Protection Plus* may live up to 24 hours before death or not die at all. It is important to take the time to fully coat leaf and soil surfaces to obtain the best results.

Using a good stereo microscope, you can see the pests dying right in front of your eyes after proper application. Take the time to do a proper application.

Aphids may never move once they have been in contact with Protection Plus. This may appear like they are still alive but upon closer inspection, they are dead and can be brushed from the leaf.

Independent research laboratory results:

% of Kill after the FIRST application:

Insect	First Application Kill Rate
Whiteflies	100%
Thrip	98%
Russet Mites	98%
Aphid	98%
Spider Mites	89%

As you can see, Protection Plus is extremely good at killing insects, arguably the best pesticide in the industry today for application on food crops that require Federal and State testing. Following the application instructions will lead you to a 100% kill. You will never be able to stop insects from coming into the growing area, it is impossible to do. What you can do is use Protection Plus weekly to suppress insects that do come into the growing area from the out of doors. Continuous applications of Protection Plus is part of IPM (Integrated Pest Management) and should be considered a cost of doing business.

Other in-house research results. Independent Research Laboratory testing in progress.

Very effective on Scorpions, Ants, Spiders, and other insects found on or around plants. As an example, spraying coffee bushes before harvest can greatly reduce worker complaints of stinging insects.

Dosage: 4 ounces per gallon

IPM Integrated Pest Management

IPM Integrated Pest Management and its value.

1. Pests are not a sign that the growers are unclean or not doing their job properly, in fact, finding pests on the plants is completely natural and expected. No matter how hard the growers try to keep pests off of their plants, pests will always be in the fields and greenhouse. However, it is the art of keeping pests under control that secures reputation and market share for growers. A farm/greenhouse needs eyes on the plants to determine
2. What kind of pest is on the crop, what the severity of the pest population is, and what type of treatment is needed to contain the spread of the pest? It is the role of every professional applicator to communicate to the grower the value of having a continuously operating pest management program or IPM. What is the meaning of IPM?
3. The definition of Integrated Pest Management can be broken down into examples like this:
 - A. **Integrated** refers to the combining or coordinating of separate elements to provide a harmonious, interrelated method of control.
 1. Check incoming plants for pests and apply pesticides whether they need it or not. Notify suppliers if pests are found. A quarantine area is advised for all incoming plants before integrating with the crop.
 2. Check incoming visitors and employees for pests.
 - The change of clothing may be required for employees with their own private gardens or if they live in the country near fields or farms.
 3. Immerse the soles of shoes in a sanitizing agent before entering indoor areas.
 4. Spray Protection *Plus* on leaves, stems, the surface area under the canopy, walkways, and delivery docks regularly.
 - B. **Pest** refers to the insects or micro-organisms that are detrimental to the continued success of the business.
 1. It is important to identify the pest or pests that you will be dealing with.
 2. Use a laboratory-grade trinocular stereomicroscope that utilizes a high-definition camera for identification. Using anything less than a lab-grade microscope with 180x is unacceptable. Take pictures before and after treatment to prove the controllability of the pests. Log the results with the date and time.
 3. Should you be asked, be prepared to issue photographic proof of the controlled pest to your client.
 - C. **Management** refers to the continuous overseeing of pest control on an hourly basis 7 days a week to ensure business success.



1. Look to the Protection *Plus* application directions in this manual and devise a preliminary treatment after diagnosing the pest population.
2. Multiple applications on the same day using the strong strength may be done if the plants are strong enough and hydrated enough to endure it. Very weak plants may need applications daily until they are strong enough to endure multiple applications on the same day.
3. After the pests have been brought under control, treat the area every 7 days. Examine the leaves, stems, and under-canopy areas of the plants.
4. Treatment schedules need to be written and followed without pause. Treatment schedules need to be posted noting the week, day, time, and duration of the application for employee awareness.
5. Remove employees from the area while treatment is going on. Allow them to return once the product has dried.
6. Spraying pesticides at low dosage levels regularly lowers the chances of a devalued crop dramatically.
7. Consistent quality harvests guarantee a secure market share. A devalued crop from pest attack reduces quality and market share.
8. The cost of an IPM program is less than the cost of losing market share and reputation.
9. Only watchful eyes in the field can keep pests under control.

Rotation

1. Protection Plus is a breakthrough pesticide in that insects can't adapt to its effectiveness. You do not need to rotate pesticides, Protection Plus when used as directed, will continue to kill the pests you are treating for years to come without losing any effectiveness!
 - A. Using only one pesticide will reduce the chances of phytotoxicity from using multiple pesticides.
 - B. Employees will learn and become familiar with only one pesticide.
 - C. The plants will have less stress with less of a chance of slowing plant growth.
2. Protection Plus may be used in any rotational program. There are so many pesticides with multiple ingredients it is hard to say whether or not any phytotoxicity will occur when mixed with one or more pesticides. It is always best to spray a portion of a plant and wait 24-48 hours and look for signs of toxicity before applying Protection Plus to the entire crop. This procedure is standard operating procedure for all pesticides.



Formulation Quality Control (Independent Research Lab Results)

We made it our job to manufacture a pesticide that is not only extremely effective and inexpensive but also make sure that it doesn't contain any ingredient that would fail lab testing. It wasn't easy but we did it! Many harmful chemicals can fail a lab test, the problem is, many states will add a harmful chemical to their list without a lot of notice. It may seem like one day a questionable chemical is not on the state's radar, the next day the same chemical will be deemed harmful, and you will fail your testing. We at Environmental Plant Management are trying to foresee the future by testing for ingredients that have already been deemed harmful **and** also testing for ingredients that we believe **will be** deemed harmful in time. By testing our pesticide for adverse ingredients, we can assure the grower, distributor, field consultant, and retailer that Protection *Plus* will not cause a grower to fail a lab test due to the ingredients listed below.

To help assure growers that they will pass lab testing, Protection *Plus* is independently lab-tested for the ingredients listed below:

- Questionable significance: *Glyphosate*
- Heavy Metals: *Antimony, Arsenic, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium*
- Microbiology: *Total Living Coliforms, Mold, Yeast, Aerobic Plate Count, Salmonella, E. coli, and Staphylococcus*
- Chemicals with adverse history or deemed inappropriate:

2,4-DP (Dichlorprop)	Aldicarb	(Abemectin)
2,4,5-TP	Aldicarb sulfoxide	Azinphos-ethyl
Acephate	Aldoxycarb (Aldicarb-sulfone)	Azinphos-methyl
Acequinocyl	Aldrin	Azoxystrobin
Acetamiprid	Ametryn	Benalaxyl
Acetochlor		Bendiocarb
Acifluorfen	Aspon	Benfluralin
Acrinathrin	Atrazine	Benoxacor
Alachlor	Atrazine-desethyl	Bensulide
	Avermectin B1a/B1b	



Bentazon	Carbofuran	Clethodim
BHC alpha (HCH)	Carbofuran, 3-hydroxy	Clethodim Sulf
BHC beta (HCH)	Carbophenothion	Clofentezine
BHC delta (HCH)	Carbophenothion-methyl	Clomazone
Bifenazate	Carboxin	Clopyralid
Bifenox	Carfentrazone-ethyl	Clothianidin Coumaphos
Bifenthrin	Chlorantraniliprole	Crotoxyphos
Binapacryl	Chlordane, cis-	Cyanazine
Bitertanol	Chlordane, trans-	Cyanofenphos
Boscalid (Nicobifen)	Chlordimeform	Cyanophos
Bromacil	Chlorfenapyr	Cyantraniliprole
Bromophos (Bromophos-methyl)	Chlorfenson (Ovex)	Cyazofamid
Bromophos-ethyl	Chlorfenvinphos	Cycloate
Bromopropylate	Chlorimuron-ethyl	Cyhalothrin, lambda
Bromoxynil	Chlornitrofen (CNP)	Cymoxanil
Bromuconazole	Chlorobenzilate	Cypermethrin: as the sum of Cypermethrins, alpha and zeta
Bupirimate	Chloroneb	Cyprodinil
Buprofezin	Chlorothalonil	Cyromazine
Butachlor	Chlorpropham (CIPC)	Dacthal (Chlorthal-dimethyl)
Butylate	Chlorpyrifos (Chlorpyrifos ethyl)	DDD, o,p'-
Cadusafos	Chlorpyrifos-methy	DDD, p,p'-
Captafol	Chlorsulfuron	DDE, o,p'-
Captan	Chlorthion	DDE, p,p'-
Carbaryl	Chlorthiophos	DDT, o,p'
Carbendazim	Cinerin	



DDT, p,p'-	Diflubenzuron	Etaconazole
DEF (Tribufos)	Diflufenzopyr	Ethalfuralin
Demeton-S	Dimethenamid	Ethiofencarb
Demeton-S methyl	Dimethoate	Ethion
Demeton-S methyl sulfone	Dimethomorph	Ethirimol
Desmedipham	Dinotefuran	Ethofumesate
Diallate	Diniconazole	Ethoprophos
Diazinon	Dinocap	Ethoxyquin
Diazoxon	Dinoseb	Etofenprox
Dicamba	Dioxathion	Etoxazole
Dichlobenil	Diphenamid	Etridiazole
Dichlofenthion	Diphenylamine	Etrimfos
Dichlofluanid	Disulfoton	Famoxadone
Dichlorbenzamide	Disulfoton sulfone	Famphur
Dichlorvos	Disulfoton sulfoxide	Fenamidone
Diclobutrazol	Dithianon	Fenamiphos
Diclofop-methyl	Diuron	Fenamiphos sulfone
Diclofop (acid)	Edifenphos	Fenamiphos sulfoxide
Dicloran	Endosulfan alpha	Fenarimol
Dicofol, o,p'/ p,p'-	Endosulfan beta	Fenbuconazole
Dicrotophos	Endosulfan sulfate	Fenbutatin oxide
Dieldrin	Endrin	Fenchlorphos
Diethofencarb	Endrin aldehyde	Fenhexamid
Diethyltoluamide (DEET)	EPN	
	EPTC (Eptam)	
Difenoconazole	Esfenvalerate/Fenvalerate	



Fenitrothion	Flutolanil	Imidacloprid
Fenobucarb	Flutriafol	Imidoxone
Fenoxycarb	Fluvalinate	Indaziflam
Fenpropathrin	Fluxapyroxad	Indoxacarb
Fenpyroximate	Folpet	Iprobenfos
Fenson	Fomesafen	Iprodione
Fensulfothion	Fonofos	Isazophos
Fenthion	Foramsulfuron	Isobenzan
Fenuron	Forchlorfenuron	Isocarbophos
Fipronil	Formetanate	Isodrin
Flonicamid	Furathiocarb	Isofenphos
Fluazifop	Halosulfuron-methyl	Isofenphos-methyl
Fluazinam	Haloxyfop	Isofenphos OA
Fluchloralin	Heptachlor	Isoprocarb
Flucythrinate	Heptenophos	Isopropalin
Fludioxonil	Hexachlorobenzene	Isoprothiolane
Flufenacet	Hexaconazole	Isoproturon
Flumioxazin	Hexazinone	Isoxaben
Fluopicolide	Hexythiazox	Isoxaflutole
Fluopyram	Hydroprene	Jasmolin
Fluoxastrobin	Imazalil	Kresoxim-methyl
Flupyradifurone	Imazamox	Lactofen
Fluridone	Imazapic	Lenacil
Fluroxypyr	Imazapyr	Lindane (gamma BHC)
Flusilazol	Imazaquin	Linuron
Fluthiacet Methyl	Imazethaphyr	Malaoxon



Malathion	MGK 264	Paraoxon (Paraoxon-ethyl)
Mandipropamid	MirexMolinate	Paraoxon methyl
MCPA/MCPB	Monocrotophos	Parathion ethyl
Mecarbam	Monolinuron	Parathion methyl
Mecoprop (MCPP)	Myclobutanil	Penconazole
Mepanipyrim	Naled	Pendimethalin
Mesosulfuron methyl0.	Napropamide	Penflufen
Mesotrione	Neburon	Pentachloroaniline
Metalaxyl / Mefenoxim	Nicosulfuron	Pentachlorobenzene (PCB)
Metconazole	Nitrapyrin	Pentachlorophenol
Methacrifos	Nitrofen	Pentachlorothioanisole (PCTA)
Methamidophos	Norflurazon	Penthiopyrad
Methidathion	Novaluron	Permethrine
Methiocarb	Nuarimol	Perthane
Methiocarb sulfone	Omethoate	Phenmedipham
Methiocarb sulfoxide	O-Phenylphenol	Phenothrin
Methomyl	Oryzalin	Phenthoate
Methoxychlor	Oxadiazon	Phorate
Methoxyfenozide	Oxadixyl	Phorate OA
Metobromuron	Oxamyl	Phorate Sulfone
Metolachlor	Oxamyl-oxime	Phorate Sulfoxide
Metolcarb	Oxychloridane	Phosalone
Metribuzin	Oxydemeton-Methyl	Phosmet
Metsulfuron-methyl	Oxyfluorfen	Pyroxsulam
Mevinphos	Oxythioquinox	Quinalphos
	Paclobutrazol	



Quinclorac	Sulfoxaflor	Triallate
Quinoxifen	Sulprofos	Triasulfuron
Quintozene (PCNB)	tau-Fluvalinate	Triazophos
Quizalofop	Tebuconazole	Tribenuron-methyl
Resmethrin	Tebufenozide	Triclopyr
Rimsulfuron	Tebuthiuron	Trichlorfon
Rotenone S421	Tecnazene	Trifloxystrobin
Saflufenacil	Tefluthrin	Trifloxysulfuron
Sebuthylazine	Tembotrione	Triflumizole
Sethoxydim	Tebuconazole	Trifluralin
Simazine	Terbacil	Triflurosulfuron-methyl
Simetryn	Terbufos	Triforin
Spinetoram	Terbufos sulfone	Triticonazole
Spinosad (Spinosyn A, D)	Terbufos sulfoxide	Thiabendazole
Spirodiclofen	Terbuthylazine	Thiabendazole, 5-hydroxy
Spiromesifen	Terbutryn	Thiacloprid
Spirotetramat	Tetrachlorvinphos	Thiamethoxam
Spirotetramat enol	Tetraconazole	Thifensulfuron-methyl
Spiroxamine	Tetradifon	Thiobencarb
Sulfallate	Tetramethrin	Thiodicarb
Sulfentrazone	Tetrasul	Thiometon
Sulfometuron-methyl	Topramezone	Thionazin
Sulfosulfuron	Tralkoxydim	Thiophanate-methyl
Sulfotep	Triadimefon	Tolclofos-methyl
	Triadimenol	Tolfenpyrad
		Tolyfluanid

Vinclozolin, Zoxamide

Outdoor Soil Applications

Protection Plus can replace four individual products resulting in a lower cost to the farm/greenhouse. *Protection Plus*, besides being an excellent leaf insect killer, can be applied to the water when watering. By continuously using *Protection Plus* at super low doses during watering, it will repel insects in the growing medium while at the same time greatly reducing or eliminating biofilm on the roots.

Biofilm is one of the biggest problems facing organic and non-organic growers. Biofilm, as it forms on roots, can restrict nutrients, water, and oxygen from entering the roots. The reduction of oxygen from the biofilm promotes the die-off of smaller roots which in turn attracts insects to the decaying matter. The continuous low-dose application of *Protection Plus* makes the growing medium less desirable for insect colonization while at the same time helping plants achieve true genetic potential. Note: While a well-developed root system is generally recognized as a good thing and biofilm can be generally recognized as a good thing in the soil, too much biofilm from the overfeeding of insoluble plant foods on the roots may cause the plant root system to be unhealthy.

Kill Pests Dosage: This will be an estimation since we don't know how much water you will use per plant per watering. Water the plants and wait until they are fully hydrated. Add 2-4 ounces (60-120ml) of *Protection Plus* to one gallon of water and mix. Apply to the soil's surface around the plant's root zone using a watering can or a pump-up sprayer. Penetrate the surface of the soil to a depth of ½ inch. Wait for 10 minutes and then water the plants. Apply every 3 days until the pests have moved away or have died.

Repel Pests and Remove Biofilm Dosage: This will be an estimation since we don't know how much water you will use per plant per watering. Water the plants and wait until they are fully hydrated.

By Hand or Truck: If possible, water the plants and wait until they are fully hydrated. Add 1-2 teaspoons (5- 10ml) of *Protection Plus* to one gallon of water and mix. Apply an ounce or two to the soil's surface around the plant's root zone using a watering can, pump-up sprayer, or truck water applicator/sprayer.

Irrigation system top watering or bottom watering systems: Dose the water supply by adding 0.1ml – 1.0ml per gallon of water, or 1.0ml – 10.0ml per 10 gallons of water, or 5.0mls – 50 ml per 50 gallons of water. This can and should be used when watering. Top watering or bottom watering systems.

Indoor Soil Applications

Applying Protection *Plus* to Greenhouse soil with no way of mixing it in large quantities.

Protection *Plus* can replace four individual products resulting in a lower cost to the farm/greenhouse. Protection *Plus*, besides being an excellent leaf insect killer, can be applied to the water when watering. By continuously using Protection *Plus* at super low doses during watering, it will repel insects in the growing medium while at the same time greatly reducing or eliminating biofilm on the roots.

Biofilm is one of the biggest problems facing organic and non-organic growers. Biofilm, as it forms on roots, can restrict nutrients, water, and oxygen from entering the roots. The reduction of oxygen from the biofilm promotes the die-off of smaller roots which in turn attracts insects to the decaying matter. The continuous low-dose application of Protection *Plus* makes the growing medium less desirable for insect colonization while at the same time helping plants achieve true genetic potential. Note: While a well-developed root system is generally recognized as a good thing and biofilm can be generally recognized as a good thing in the soil, too much biofilm from the overfeeding of insoluble plant foods on the roots will cause the plant root system to be unhealthy.

Kill Pests Dosage: This will be an estimation since we don't know how much water you will use per plant per watering. Water the plants and wait until they are fully hydrated. Add 2 ounces (60ml) of Protection *Plus* to one gallon of water and mix. Apply to the soil's surface around the plant's root zone using a watering can or a pump-up sprayer. Penetrate the surface of the soil to a depth of ½ inch. Wait for 10 minutes and then water the plants with your water hose until runoff from the pot is seen. Apply every 3 days until the pests have moved away or have died.

Repel Pests and Remove Biofilm Dosage: This will be an estimation since we don't know how much water you will use per plant per watering. Water the plants and wait until they are fully hydrated. Add 1-2 teaspoons (5-10mls) of Protection *Plus* to one gallon of water and mix. Apply an ounce or two to the soil's surface around the plant's root zone using a watering can or a pump-up sprayer. Do this for each plant. Now, water the plants with your garden hose. You apply Protection *Plus* in this manner as often as you like. Have fun, spray some rows and not others to prove to yourself that removing the biofilm was worth the effort.

Outdoor Leaf Applications

If possible, make applications of Protection *Plus* after irrigation. If irrigation is above the canopy, allow the leaves to dry before application. Make all applications early in the day, late in the day, or on cloudy days. Applications may be done with handheld, pump-up, or powered sprayers.

Dosage: For the proper dosage, please refer to the type of pest to be treated within this manual for dosage and applications suitable for fields and farms.

Indoor Leaf Applications

If possible, water the plants until they are fully hydrated. Once hydrated, make all applications early in the day, late in the day, or on cloudy days. Applications may be done with handheld or pump-up sprayers.

Dosage: For the proper dosage, please refer to the type of pest to be treated within this manual for dosage and applications suitable for fields and farms.

Hydroponic Systems kept free of slime/biofilm

Protection Plus will keep roots, pipes, tubes, drippers, sprayers, and tanks free of biofilm/slime. Protection *Plus* keeps your system running clean without purchasing chlorine or system cleansers. This makes Protection *Plus* even more affordable.

Dosage: We suggest that you start with 1/2ml Protection *Plus* per gallon or 5mls/1 tsp per 10 gallons of water/nutrient and see how well the equipment and roots are being kept clean. To maintain optimal facility profitability, we suggest the dosage be slowly decreased until you see biofilm form again, then raise the dosage back up slightly to maintain a biofilm-free system.

Hydroponic systems that have small tubes and orifices will need to be cleaned out gradually otherwise plugging may occur. This product has been formulated to be concentrated and economical, only increase the dose if you feel it is a benefit. This dosage range will repel insects and will help keep the colonization of bacterial growth from occurring.

Hydroponic Systems – Insects in the Growing Media

1. If possible, isolate one plant and test it before treating the entire crop. This will tell you how sensitive the plant is and or how sick it is and whether you should keep the dose the same, increase the dose, or reduce it.
2. Root drenches should be done after the plant's media has had a clear water flush and the plants are fully hydrated.
3. Root drenches should take place for 5 minutes, then flush with water.
 - a) We recommend you treat all of the soil/growing media making sure to penetrate down into the root ball where the root Aphids are concentrated. It is the root ball that protects the root Aphids from rain and other natural hazards so naturally, it is the root ball that is hardest to treat with the

Protection Plus. It is important to take the time to slowly pour Protection Plus around the base of the stem, allowing the treatment to fully soak into the areas *inside* the root ball until runoff from the pot occurs. Then treat the rest of the soil/growing media. Allow Protection Plus to sit in the soil/growing media for 5 minutes then Flush the Protection Plus out of the soil/growing media with water. Treat all plants.

- b) General Application: Apply Protection Plus once every three days until the infestation is under control.
- c) Alternate aggressive application for extreme infestations: Apply Protection Plus once a day for three days and then go to applying once every three days until the infestation is under control. Allow Protection Plus to kill the root Aphids for 5 minutes then Flush the soil/growing media with water.
- d) Spray the plant's leaves and stems every 7 days to complete your IPM Integrated Pest Management program. This will assure you that there will be little chance of pest problems.
- e) Start the dosage at 4 ounces (120 ml) per gallon of water. Decrease the dosage to 2 ounces (60ml) to maintain low insect levels.

Use in Fertilizer Tea Brewing Process

While using teas made from organic materials is a great way to feed plants, it can bring on some undesirable situations. Tea is a prime source of food for pests, so applying it is like ringing a dinner bell. Adding Protection *Plus* to the water before adding the other ingredients makes for a superior tea. Protection *Plus* should be used when making tea from liquids, solids, or both. After the tea has been applied to the soil it will help to repel insects and powdery mildew, reduce the odor of the tea as it breaks down, and increase the soil's bioactivity. *It should be noted that the strength of the tea will likely increase with the use of the Protection Plus as it will greatly increase bioactivity.* It will also help to reduce the amount of slime/biofilm that can accumulate in and around the root zone. Biofilm is undesirable because when it coats the roots it reduces water, mineral uptake, and discourages mycorrhiza from attaching to the roots. It is amazing how well the plants will respond to the proper conditions found in the soil.

Dosage:

Concentrated tea: Use 1 teaspoon (5mls) per gallon of water and ingredients. Add ingredients to water, add Protection *Plus* and let brew. Allow the tea to brew for at least 24 hours, longer is always better as it takes a while for the bacteria in your tea to break down the solids that are holding onto the NPK, minerals, amino acids, and more.

Ready to use tea: (you make it up and apply it directly to the plant) use 1 teaspoon (5mls) per 5 gallons of water and ingredients. Allow the tea to brew for at least one hour.

Applying Protection *Plus* to buds or blooms

Protection *Plus* is very kind to plants. However, no liquid, including water should be sprayed on a bud or bloom unless it is necessary. Cosmetically speaking, just the minerals alone in water can change delicate hairs to a different color.

If it is necessary to apply Protection *Plus* because of a pest infestation that could destroy the crop, it would be better to spray the buds than not to spray.

Use the least amount needed to get the job done. Slight imperfections to bud hairs will be apparent.

Application before Entry into Facility

Re-enter facility after Protection Plus application has dried. What is the number 1-way insects get into your garden? You invite them in. Plants should be treated with Protection *Plus* before they are brought into any indoor or outdoor setting. Even if you don't see any pests, we still suggest you spray the plants and quarantine them until you do not detect any pests for 10 days. Spray your newly acquired plants with Protection *Plus* once a day for three days and then once every three days while they are in quarantine. Soil: Under high-intensity light, empty the soil onto a white surface and watch carefully for Mite or Aphid movement. Rockwool: Remove the wrapper and inspect the areas between the plastic and Rockwool. Remove a slice of the Rockwool and inspect under a microscope.

Safety

All state and federal agencies are recommending that you cover up with protective clothing and proper equipment such as gloves, eyewear, and mask when you spray pesticides. As with any product, discontinue using the product if a rash occurs as you may be allergic to one or more of its ingredients. When used as directed, Protection *Plus* is fairly gentle to the skin but should be rinsed off after contact.

Mixing and Application Period?

Always spray the same day you make it. Clean sprayer before and after use.

Using a wetting agent

Environmental Plant Management **does not** recommend a wetting agent. Protection *Plus* has a proper surfactant package, even for dirty field-grown leaves.

Lighting and Applications

This issue is debatable. We have seen no harm spraying when the lights were ON, as long as HID lighting is not too close to the plants. Fluorescent and LED lighting can be fairly close to the plants without phytotoxic (ill) effects. Spray one part of a plant and watch for possible indications of problems before spraying the entire crop. With any pesticide, make sure the plants are hydrated before application. In most cases, the plants will show signs of relief after being sprayed with Protection *Plus*.

Odor Control

When sprayed, Protection *Plus* gives off a pleasant smell. Once dried Protection *Plus* will not emit an offensive odor.

Pets

We have seen no ill effects on pets while applying or after the application of Protection *Plus* to areas where plants are growing. Remove pets from the area during application. Pets may return after application has dried.

Plant Growth

Protection *Plus* will not significantly slow plant growth. Why? It doesn't use oil and detergents as its primary ingredients. Oil-based pesticides will slow plant growth. Why? Since oil and water don't mix well, the oil needs to have a heavy-duty detergent or soap added to it so that it will be soluble in water. When the combination of oil and detergent/soap is sprayed on the leaves and allowed to dry, the dried pesticide clogs the stomata and blocks light to the chloroplasts. Note: In most cases, the plants will show signs of relief after being sprayed with Protection *Plus*.

Rinsing Protection Plus Off Plants

You can rinse foliage off after you have determined the infestation is under control. You will find that it is much easier to rinse off leaves and stems than it is when you use oil and detergent-based pesticides.

Plant Soil Flush

Protection *Plus* can be used to flush out excess minerals. Always remember to flush it out after ten minutes with water. **Application:** Add Protection Plus to water and mix. Then, flood containers with plenty of runoff. Flush with water after 5 minutes. This will greatly reduce the mineral deposits in the soil.

Dosage: Mix 1tsp/5ml per 5 gallons of water.

Russet Mites



The Russet Mite life cycle starts on the leaf and ends on the leaf however some may use the soil to access the plant stem. Eggs can be seen with a microscope but often are misidentified as trichomes. Generally speaking, the Russet Mite egg is slightly smaller than the trichome with a more rounded appearance. Eggs will turn from clear to opaque to orange after treatment signifying their transition from healthy to dead.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching

numbers, then treat for insects. Always test one plant with multiple applications to understand the severity of plant stress and unhealthiness before treating the whole crop.

1. We recommend you spray the surface of the soil to penetrate $\frac{1}{4}$ inch down to where the insects may be crawling.
2. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. Treat all plants.
3. **Infestation application or to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop.

Note: Since you chose the infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you also have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.

5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
7. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops.

Spider Mites



The Spider Mite life cycle starts on the leaf and ends on the leaf however some may use the soil to access the plant stem. When temperatures exceed 75 degrees F, **Spider mites can go from hatch to adult in 3-4 days.** It is extremely important to get control of the crop as soon as possible. Eggs can be seen with a microscope but often are misidentified as trichomes. Generally speaking, the Spider Mite egg is slightly larger than the trichome with a more rounded appearance with some species showing a black dot or dots. Eggs will turn from clear to opaque to orange after treatment signifying their transition from healthy to death.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then treat for insects. Always test one plant with multiple applications to understand the severity of plant stress and unhealthiness before treating the whole crop.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three

days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.

3. We recommend you spray the surface of the soil to penetrate $\frac{1}{4}$ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. Treat all plants in the greenhouse.
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
7. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops.

Thrips



Thrips are very hard to kill for a few reasons that we should go over. Thrips crawl and fly, and when they start to fly, you will find them on objects all over the room. Their life cycle starts in the soil so you will need to treat the soil to kill the eggs, larvae, and adults living there.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then treat for insects. Always test one plant with multiple applications to understand the severity of plant stress and unhealthiness before treating the whole crop.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now

know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.

3. We recommend you spray the surface of the soil to penetrate $\frac{1}{4}$ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. Treat all plants in the greenhouse.
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
7. Since the thrips fly, they will go airborne when they feel the spray hitting the leaves of nearby plants. If the plants are in a vegetation state, then you might want to spray over the plants so that when they do go airborne, you will hit them with the spray. If your plants are in bloom, you will have to determine the severity of the infestation. If the thrips are placing the blooming crop in danger of failure, then you will have to kill them. As we have addressed before, by just spraying water on delicate buds you will notice some cosmetic imperfections. Most plants in the early stages of bloom growth will out-grow any cosmetic imperfections.
8. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for the mist applications. Make sure the sprayer is rated for food crops.

Aphids (Leaf)



The leaf Aphid life cycle starts on the leaf and ends on the leaf however some may use the soil to access the plant stem. Eggs can be seen with a microscope but often are misidentified as trichomes. Generally speaking, an Aphid egg is larger than the trichome and oblong in shape and may be seen with a white, light green, or brownish pigmentation. Aphids, in general, will have a teardrop shape with two antennae-like protrusions at the rear of the insect. This shape is common for both leaf and root Aphids with root aphids tending to be much more colorful.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then treat for insects. Always test one plant with multiple applications to understand the severity of plant stress and unhealthiness before treating the whole crop.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source

unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.

3. We recommend you spray the surface of the soil to penetrate ¼” down to where the insects may be crawling.
4. Spray the plants every 7 days throughout the plant’s life as part of your IPM (Integrated Pest Management Program). This will assure you that there will be little chance of pest problems.
5. **Dosage:** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
6. Since they fly, they will go airborne when they feel the spray hitting the leaves of nearby plants. If the plants are in a vegetation state, then you might want to spray over the plants so when they do go airborne, you will hit them with the spray. IF your plants are in bloom, you will have to determine the severity of the infestation. If the thrips are placing the blooming crop in danger of failure, then you will have to kill them. As we have addressed before, by just spraying water on delicate buds you will notice some cosmetic imperfections. Most plants in the early stages of bloom growth will out-grow any cosmetic imperfections.
7. *The Aphid will die within seconds of the application and freeze in place looking like statues. This condition may fool you into thinking they are still alive but with closer examination, they are indeed dead. They will eventually fall off of the leaf or simply brush them or wash them off.*
8. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant’s leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops.

Aphids (Root)



The root Aphid life cycle starts in the soil and goes to above-ground vegetation. Some may fly, some don't. Eggs can be seen with a microscope but often are misidentified. Generally speaking, an Aphid egg is larger than a leaf trichome and oblong in shape and may be seen with a white, light green, or brownish pigmentation. Aphids, in general, will have a tear drop shape with two antennae-like protrusions at the rear of the insect. This shape is common for both leaf and root Aphids with root aphids tending to be much more colorful.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and showing a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then treat for insects. Always test one plant with multiple applications to understand the severity of plant stress and unhealthiness before treating the whole crop.

1. We recommend you treat all of the soil/growing media making sure to penetrate down into the root ball where the root Aphids are concentrated. It is the root ball that protects the root Aphids from rain and other natural hazards so naturally, it is the root ball that is hardest to treat with the Protection Plus. It is important to take the time to slowly pour Protection Plus around the base of the stem, allowing the treatment to fully soak into the areas *inside* the root ball until runoff from the pot occurs. Then treat the rest of the soil/growing media.

2. Allow Protection Plus to sit in the soil/growing media for 10 minutes then Flush the Protection Plus out of the soil/growing media with water. Treat all plants in the greenhouse or home. Apply Protection Plus once every three days until the infestation is under control. Remember, allow Protection Plus to kill the root Aphids for 10 minutes then Flush the soil/growing media with water.
3. General Application: Apply Protection Plus once every three days until the infestations is under control. In most cases, only one or two applications are needed for control. Allow Protection Plus to kill the Root Aphids for 10 minutes then flush the soil/growing media with water. Field-grown plants can forgo the flushing with water. However, the dosage may need to be lowered to compensate for the root's longer contact time with Protection Plus. This is where one plant should be singled out and treated, watched carefully and decisions made. IF the insects are in flight stage of growth, treat foliage also. See Leaf Aphids.
4. Spray the plants every 7 days to complete your IPM (Integrated Pest Management Program). This will assure you that there will be little chance of pest problems.
5. **Dosage:** Start the dosage at 2 ounces (60 ml) per gallon of water. Increase the dosage to 3-4 ounces (90-120ml) only if needed.
6. The Root Aphid will take longer to die than the standard Leaf Aphid. While most young aphids will die within seconds of the application and freeze in place looking like statues, the older adults may take longer to die.



Gnats



The Gnat life cycle starts in the soil as this is where they lay their eggs. The egg takes 4-6 days to hatch into a larva, then 12-14 days to turn into a pupa, then within 4-6 days, the adult gnat emerges. It will take 8-10 days for the adult to start laying eggs. Generally speaking, a Gnats egg is oblong in shape and may be seen with white or brownish pigmentation. Gnat larva and pupa, in general, will have a worm-like shape with a black spot that eventually turns into the eyes and or mouth.

Before applying any pesticide, make sure the plants are fully hydrated. *Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.*

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then treat for insects. Always test one plant with multiple applications to understand the severity of plant stress and unhealthiness before treating the whole crop.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.

3. We recommend you spray the surface of the soil to penetrate ¼ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. *Treat all plants in the greenhouse.*
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
7. Since they fly, they will go airborne when they feel the spray hitting the leaves of nearby plants. If the plants are in a vegetation state, then you might want to spray over the plants so when they do go airborne, you will hit them with the spray. If your plants are in bloom, you will have to determine the severity of the infestation. If the thrips are placing the blooming crop in danger of failure, then you will have to kill them. As we have addressed before, by just spraying water on delicate buds you will notice some cosmetic imperfections. Most plants in the early stages of bloom growth will out-grow any cosmetic imperfections.
8. In some instances, the gnats will be found deeper into the soil. One of the reasons may be that the soil has pulled away from the sides of the pot, allowing the gnat access to the lower areas of the soil. Also, some planters have holes in their sidewalls to help allow air to pass into the soil and achieve atmospheric root pruning. These air holes allow the gnat access to infest the entire area where the pot meets the soil. In this case, a root drench is advisable.
9. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops.



Whiteflies



There are six stages of growth on the leaf, one of the stages is flight. The eggs are oblong and whitish in color and the nymphs are translucent and may take on the color of the plant leaf as light bounces back through it. Flying insects are always a challenge however, Protection *Plus* is a great knockdown pesticide. Spraying over the canopy will promote flight and this is a good time to make sure enough pesticide travels into the air to make contact with all of the fliers. Because the fliers may get only a partial application, we are suggesting the maximum dosage.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and showing a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then treat for insects. Always test one plant with multiple applications to understand the severity of plant stress and unhealthiness before treating the whole crop.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop.
Note: Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.

3. We recommend you spray the surface of the soil to penetrate ¼ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. Treat all plants in the greenhouse.
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
7. Since they fly, they will go airborne when they feel the spray hitting the leaves of nearby plants. If the plants are in a vegetation state, then you might want to spray over the plants so when they do go airborne, you will hit them with the spray. If your plants are in bloom, you will have to determine the severity of the infestation. If the thrips are placing the blooming crop in danger of failure, then you will have to kill them. As we have addressed before, by just spraying water on delicate buds you will notice some cosmetic imperfections. Most plants in the early stages of bloom growth will out-grow any cosmetic imperfections.
8. The Whitefly will die within seconds. They will eventually fall off of the leaf or simply brush them or wash them off.
9. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops.

Scorpions



Scorpions are related to Spiders in that they are arachnids having eight jointed legs. The Scorpion's prey is primarily other insects, but some will hunt vertebrates. Many species will run towards an adversary no matter how large it is. In any case, these little creatures will find their way into crops grown outdoors and indoor dwellings that have cracks and crevices leading to the outdoors. They do this to wait for prey to arrive and drink from morning dew or watering systems. Their presence on coffee, cannabis, and other bushy shrubs and trees that need to be harvested creates a real problem. While few people die from the sting, the sting is almost always very painful, and many workers will simply not perform tasks amongst infested crops. The problem facing growers in the past was pesticides that were effective in killing or repelling the scorpions were not suitable to be used on food crops. **Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.** Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. When flushing, check the EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then allow time for the plant to hydrate and then treat for insects. Outdoor field growers should water the plants before application, either in the morning or late in the day when atmospheric conditions allow for the longest contact time to the pest before evaporating.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop.
Note: Since you chose the extreme infestation application method to gain quick control

of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.

3. We recommend you spray the surface of the soil to penetrate ¼ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. *Treat all plants in the greenhouse.*
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
7. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops.

Spiders



Spiders are related to Scorpions in that they are arachnids having eight jointed legs. The Spider's prey is primarily other insects, but some will hunt vertebrates. In any case, these little creatures will find their way into crops grown outdoors and indoor dwellings that have cracks and crevices leading to the outdoors. They do this to wait for prey to arrive and drink from morning dew or watering systems. Their presence on coffee, cannabis, and other bushy shrubs and trees that need to be harvested creates a real problem. While few people die from the sting, the sting is almost always very painful, and many workers will simply not perform tasks amongst infested crops. The problem facing growers in the past was pesticides that were effective in killing or repelling the Spiders were not suitable to be used on food crops.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. When flushing, check the EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then allow time for the plant to hydrate and then treat for insects. Outdoor field growers should water the plants before application, either in the morning or late in the day when atmospheric conditions allow for the longest contact time to the pest before evaporating.

Protection Plus is very effective in the killing and repelling of Spiders. Spiders will under often die within 20-30 seconds after application. Some may take longer but death will come.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.

2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.
3. We recommend you spray the surface of the soil to penetrate $\frac{1}{4}$ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. Treat all plants in the greenhouse.
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.

Ants



Ants are related to Wasps and Bees having six jointed legs. The Ant's prey is primarily food source is insects and sap from plants, but some will hunt vertebrates. In any case, these little creatures will find their way into crops grown outdoors and indoor dwellings that have cracks and crevices leading to the outdoors. They do this to wait for prey to arrive and drink from morning dew or watering systems. Their presence on coffee, cannabis, and other bushy shrubs and trees that need to be harvested creates a real problem. While few people die from the sting, the sting is almost always very painful, and many workers will simply not perform tasks amongst infested crops. The problem facing growers in the past was pesticides that were effective in killing or repelling the Spiders were not suitable to be used on food crops.

Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.

Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. When flushing, check the EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then allow time for the plant to hydrate and then treat for insects. Outdoor field growers should water the plants before application, either in the morning or late in the day when atmospheric conditions allow for the longest contact time to the pest before evaporating.

Protection Plus is very effective in the killing and repelling of Ants. Ants will under often die within 20-30 seconds after application. Some may take longer but death will come. Fire and Carpenter ants are tough but Protection Plus will keep them off of the harvest.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.
3. We recommend you spray the surface of the soil to penetrate ¼ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. *Treat all plants in the greenhouse.*
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. These insects are hard to control.
7. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops.

Powdery Mildew



There are many varieties of mold and mildew. We will address them all here as Powdery Mildew. Protection Plus works great to suppress Powdery Mildew. Once you have Powdery Mildew, it will be very hard to get rid of it unless you spray weekly to keep it from getting out of control. **Before applying any pesticide, make sure the plants are fully hydrated. Flush the plants well with water and show a good amount of run-off. Wait 1 hour before application.** Professional Pesticide Applicators Note: Many infestations come from stress caused by excess fertilizer in the growing medium. Check EC/PPM of the last few ounces of run-off from the pot. It must be the same EC/PPM as the water you used to flush with. Repeat the flush procedure until you get matching numbers, then treat for insects.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.
3. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.

4. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. Powdery Mildew is hard to control.
5. If possible, use an airless sprayer. They emit a very consistent fine spray without a lot of pressure behind it. This will allow the plant's leaves to not move around so much that you miss hitting the pests. 100 ft super light-weight hoses and extra reach attachments are available. Use the orifice supplied for fine mist applications. Make sure the sprayer is rated for food crops
6. Much research needs to be done to determine whether powdery mildew as a whole or a certain strain affects certain plants systemically. There are thousands of strains of powdery mildew, some specific to plants as rose powdery mildew is different than powdery mildew found on cucumbers. In the case of Cannabis, at the time of this writing, it is up in the air which one or more powdery mildew strains affect Cannabis. Until more is known, the best way to keep powdery mildew from corrupting the crop is to consistently use a proper IPM program. It is known, however, that powdery mildew is much more common in plants that are underfed and overfed, with overfed being more problematic.

Predatory Insects Use in Integrated Pest Management

Protection Plus™ is a great choice to use as a knockout treatment for infestations before releasing predatory mites, aphids, etc. as predatory insects are much better at controlling insect infestations than irradiating them. You want to kill the pests and their young before releasing the predatory insects. Once Protection Plus has dried it will not harm the predatory insects.

Predatory insects are great for protecting gardens if predatory insect numbers are high in number, however, the cost of introducing enough predatory insects to stop an infestation before the plants are beyond help usually ends up being quite expensive. Treat the plants with Protection Plus and release the predatory insects after 95-100% of the pests are dead. Russet Mites and Spider Mites can populate extremely fast when temperatures are above 75 Degrees F. It is the opinion of many that you will need to kill at least 95% of the pests before the release of the predatory insects or the pests will have a good chance of repopulating before the predatory insects can take control of the infestation. Should the pests repopulate faster than the predatory insects can control them, all of your labor and money spent will be lost and the process will have to start again.

This method of treating the plants first with Protection Plus will ensure the best results coming from the predatory insect release and cost you less money in the long run by giving you a better chance of a successful predatory insect population.

Always apply Protection *Plus* and wait for it to dry before releasing predatory insects. It's also a good idea to make sure most of the adult pests, their larvae, and eggs are dead before releasing predatory insects.

1. **Standard application for this pest:** Apply Protection *Plus* once a day for three days and then go to spraying once every three days until the infestation is under control.
2. **Extreme Infestation - Application to gain quick control of the crop.** Spray three times on day one, wait for the spray to dry between applications. Then, spray once a day for the next three days, then spray once every three days until you observe a pest-free crop. **Note:** Since you chose the extreme infestation application method to gain quick control of your crop, you now know you are prone to extreme pest attacks from incoming plants, guests, workers, or a source unknown. If you have pest issues you have plant quality and harvest quantity issues. In the end, the company that supplies the market with the most consistent produce wins. Just like buying fertilizer, weekly pest treatments are part of the cost of doing business.
3. We recommend you spray the surface of the soil to penetrate $\frac{1}{4}$ inch down to where the insects may be crawling.
4. Spray the leaves and stems for crawlers, breeders, and eggs making sure that every square inch of the plant has been treated. *Treat all plants in the greenhouse.*
5. Spray the plants every 7 days throughout the plant's life as part of your IPM (Integrated Pest Management program). This will assure you that there will be little chance of pest problems.
6. **Dosage** should stay at 4 ounces (120 ml) per gallon of water. Most insects are hard to control.