UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

May 16, 2017

Timothy M Formella
Sr. Product Registration Manager
FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

Subject: Label Amendment – Addition of chemigation use directions and crop uses already on similar product labels
Product Name: F4120-1
EPA Registration Number: 279-3473
Application Date: February 14, 2017
Decision Number: 526477

Dear Mr. Formella:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

with FIFRA section 6. If you have any questions, please contact Tim Ciarlo by phone at 703-347-8082, or via email at Ciarlo.Timothy@epa.gov.

Sincerely,

Kable Bo Davis, Product Manager 3
Invertebrate and Vertebrate Branch 1
Registration Division (7505P)
Office of Pesticide Programs

# RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms. For retail sale to and use only by certified applicators, or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

# F4120-1

| | | |
|---|---|---|
| GROUP | 3A | INSECTICIDE |
| GROUP | 44 | FUNGICIDE |

LFR Liquid Fertilizer Ready Technology

For mixing directly with liquid fertilizer to control listed soil pests.

**EPA Reg. No. 279-3473** **EPA Est. No. _____**

| **Active Ingredient:** | **By Wt.** |
|---|---|
| Bifenthrin *: | 15.67% |
| *Bacillus amyloliquefaciens* strain D747 **: | 5.00% |
| **Other Ingredients:** | 79.33% |
| | 100.00% |

*Cis isomers 97% minimum, trans isomers 3% maximum
** Contains a minimum of 1x $10^{10}$ colony-forming units (cfu) per milliliter of product
This product contains 1.5 lbs bifenthrin per gallon.

ACCEPTED
05/16/2017
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 279-3473

## KEEP OUT OF REACH OF CHILDREN
## CAUTION

This label must be in the possession of the user at the time of application**.**
**See other panels for additional precautionary information.**

| **FIRST AID** | |
|---|---|
| **If Swallowed:** | -Call a poison control center or doctor immediately for treatment advice.<br>-Have person sip a glass of water if able to swallow.<br>-Do not induce vomiting unless told to do so by a poison control center or doctor.<br>-Do not give anything by mouth to an unconscious person. |
| **If in Eyes:** | -Hold eye open and rinse slowly and gently with water for 15-20 minutes.<br>-Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.<br>-Call a poison control center or doctor for treatment advice. |
| **If on Skin:** | -Take off contaminated clothing.<br>-Rinse skin immediately with plenty of water for 15-20 minutes.<br>-Call a poison control center or doctor for treatment advice. |
| **HOTLINE NUMBER** | |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information. | |
| **NOTE TO PHYSICIAN** | |
| This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. | |
| **For Emergency Assistance Call (800) 331-3148.** | |

**Net Contents:** _____

**Sold By:**
FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**Caution**

Harmful if swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**Personal Protective Equipment (PPE):** Handlers who may be exposed to the concentrate through mixing, loading, application, or other tasks must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Mixers/loaders and applicators must wear a NIOSH approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

### User Safety Recommendations

**Users should:**

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

## Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.
This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area.
The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

# DIRECTIONS FOR USE

### Restricted Use Pesticide

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

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

## AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.
Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, Waterproof gloves, and Shoes plus socks.

## Resistance Management

Some pests are known to develop resistance to pesticides that have been used repeatedly. While the development of pest resistance is well understood, it is not easily predicted. Therefore pesticides should be used in conjunction with the resistance management strategies in the area. Consult the local or State agricultural advisors for details. If pest resistance should develop in the area, this product used alone may not

continue to provide sufficient levels of pest control. If the reduced levels of control cannot be attributed to improper application techniques, improper use rates, improper application timing, unfavorable weather conditions or abnormally high pest pressure, a resistant strain may have developed.

To reduce the potential for pesticide resistance use this product in a rotation program with other classes of chemistry and modes of action. Always apply this product at the recommended rates and in accordance with the use directions. Do not use less than recommended label rates alone or in tank mixtures. Do not use reduced rates of the tank mix partner. For optimum performance, scout fields carefully and begin applications when pests are smaller rather than larger. If resistance is suspected, contact the local or State agricultural advisors.

## Chemigation Use Directions

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, drip irrigation, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluents, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

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

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distributions is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment. Capture LFR Soil Insecticide should be applied continuously for the duration of the water application. Capture LFR Soil Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inches per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less then desirable control.

## Application and Mixing Instructions

Shake well before using.

F4120-1 is an insecticide/fungicide that contains 1.5 pounds of bifenthrin per gallon along with *Bacillus amyloliquefaciens* strain D747 at a minimum of 1x $10^{10}$ colony-forming units (cfu) per milliliter. *Bacillus amyloliquefaciens* strain D747 is a beneficial bacterium used for control or suppression of fungal and bacterial plant diseases. F4120-1 can be mixed directly with liquid fertilizer or with water. The rate of application is variable according to pest pressure, timing of treatments and field scouting. Use lower rates under light to moderate pest infestations, and higher rates under heavier pest pressure. In arid climates applications rates are generally higher. Fill the tank one-half full with liquid fertilizer or water and begin spray tank agitation. Add the proper amount of F4120-1, and then add the rest of the fertilizer or water. Maintain agitation until the mixture has been applied.

Agitate the F4120-1 spray solutions in nurse tanks prior to moving the solution to spray system.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.
In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

F4120-1 can be applied in-furrow with the seed, as a T-band (band over the open furrow), as a broadcast application, as a band over the row or as a transplant-water drench during setting. Refer to the individual crop use directions for pest control or suppression instructions.

F4120-1 can be mixed with commonly used liquid starter or pop-up fertilizers. Follow liquid fertilizer recommendations regarding seed safety and use guidelines. Conduct a preliminary jar test using the appropriate ratio of fertilizer and F4120-1. Do not allow a tank mixture to set overnight, but if this occurs agitate tank mixture prior to application.

## Crop Rotation Restrictions

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days following the final application of bifenthrin.

## Tank-Mixtures

F4120-1 may be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products. To insure successful applications, product compatibility tests should be conducted.

## Maximum Allowable F4120-1 Use Per Acre Per Season

Refer to the individual crop sections for maximum allowable F4120-1 usage per acre per season. The maximum allowable use must include all registered use patterns including at-plant, soil applied and/or foliar applications for the 12 months period. The 12 month period is to begin upon the initial application to the acre.

## BUFFER ZONES

**Vegetative Buffer Zones**

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing bifenthrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers: *Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services.* USDA, NRCS. 2000. Fort Worth, Texas. 21pp. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_023819.pdf.

**Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast) –** Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds).

**Buffer Zone for ULV Aerial Application -** Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds).

**Buffer Zone for Non-ULV Aerial Application –** Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds).

## Spray Drift Requirements

**Wind Direction and Speed**

Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph.

**Temperature Inversion**

Do not make aerial or ground applications into temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

**Droplet Size**

Use only Medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

**Additional Requirements for Ground Applications**

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

**Additional Requirements for Aerial Applications**

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

## BRASSICAS

Head and Stem Brassica Vegetables including: Broccoli, Chinese, Broccoli (gai lon, white flowering broccoli), Brussels Sprouts, Cauliflower, Cavalo broccoli, Kohlrabi, Cabbage, Chinese Cabbage (napa), and Chinese Mustard Cabbage (gai choy)

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grubs<br>Seedcorn maggot<br>Cabbage maggot<br>Root maggots<br>Root aphids<br>Army cutworm<br>Cutworm species<br>Armyworm species | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band (T-band) over the open seed furrow, or in-furrow with the seed. Cutworm and armyworm treatments may be applied as broadcast treatments to the soil surface. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Root Aphids<br>Root Maggots<br>Seed corn maggot<br>Wireworms<br>Garden Symphylans | PRE<br>3.4 – 6.8 | PRE<br>0.04 – 0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PRE labeled herbicides and fungicides for pre-transplant application. |
| | PPI<br>3.4 – 6.8 | PPI<br>0.04 - 0.08 | Incorporation of F4120-1Soil Insecticide should not be incorporated any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting or transplant depth. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 - 6.8 | 0.04 – 0.08 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### Foliar

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Cutworms<br>Corn Earworm<br>Crickets<br>Cucumber Beetles<br>Diamondback Moth<br>Flea Beetles<br>Ground Beetles<br>Imported Cabbageworm<br>Leafhoppers<br>Loopers<br>Saltmarsh Caterpillar<br>Stink Bugs<br>Thrips<br>Tobacco Budworm<br>Whitefly<br>Wireworm (adults)<br>Black burrowing bug | 2.8 – 8.5 | 0.033 – 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.<br><br>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1 - 2 quarts of emulsified oil may be substituted for 1 - 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. |
| Banks Grass Mite<br>Carmine Mite<br>Lygus Species<br>Pacific Spider Mite<br>Twospotted Spider Mite | 6.8 – 8.5 | 0.08 – 0.1 | |
| * Suppression of Downy mildew, powdery mildew , leaf spots, pin rot complex | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make more than 5 applications after bloom.<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 7 days of harvest. | | | |

**Brassica Head and Stem Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## BUSHBERRIES (Crop Subgroup 13-07B)

Including: Aronia berry; blueberry, highbush; blueberry, lowbush; buffalo currant; Chilean guava; cranberry, highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); lingonberry; native currant; salal; sea buckthorn; cultivars, varieties, and/or hybrids of these

### At-Plant

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Wireworm<br>White Grubs<br>*Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium*, *Rhizoctonia, Fusarium*, or *Phytophthora* | 8.5 | 0.1 | Apply as a (T-band) over an open furrow immediately prior to transplanting, or in-furrow with the transplant in sufficient water for planting. May also be applied as a solid drench with transplant water at time of transplanting |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### PPI (Site Preparation) & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Wire worm<br>White Grubs<br>Blueberry Maggot (larvae) | PRE<br>3.4 – 8.5 | PRE<br>0.04 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PRE herbicides |
| | PPI<br>8.5 | PPI<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI herbicides, insecticides and fungicides where allowed. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended planting depth. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | PRE & PPI<br>3.4 – 8.5 | PRE & PPI<br>0.04 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Blueberry maggot<br>Fruitworms<br>Japanese beetle<br>Leafhoppers<br>Leaf rollers<br>Lecanium scale (crawlers)<br>Obliquebanded leaf roller<br>Plum curculio<br>Red banded leafroller<br>SpanwormVariegated leafroller<br>Spotted Winged Drosophila | 3.4 – 8.5 | 0.04 - 0.1 | Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. Thorough coverage is essential to achieve control. Make application at the onset of infestation reaching locally determined economic thresholds. |
| Carmine Mite<br>Lygus species<br>Pacific Spider Mite<br>Twospotted Spider Mite | 6.8 - 8.5 | 0.08 - 0.1 | |
| * Suppression of *botrytis* blight, bacterial canker, *anthracnose* fruit rot, *sclerotinia*; mummy berry, | 3.4 – 8.5 | 0.04 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 1 day of harvest. | | | |

**Bushberries (Crop Subgroup 13-07B) Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PRI, PRE and foliar application of F4120-1Soil Insecticide and other bifenthrin containing products.

## CANEBERRIES (Crop Subgroup 13-07A)

Including: Caneberries, Bingleberries, Blackberries, Dewberries, Loganberries, Lowberries, Marionberries, Olallieberries, Raspberries, and Youngberries.

### At-Plant

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Wireworm<br>White grubs | 8.5 | 0.1 | Apply as a 5 to 7 inch band (T-band) over an open furrow in sufficient water for planting, or in-furrow with the seed. May be applied through transplant water at time of transplanting. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## PPI (Site Preparation) & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Wireworm<br>White Grubs | PRE<br>8.5 | PRE<br>0.1 | |
| | PPI<br>8.5 | PPI<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI pesticides labeled for site preparation. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended planting depth. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 8.5 | 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Leafrollers<br>Orange Tortrix<br>Root Weevils<br>Spotted Winged Drosophila | 4.3 – 8.5 | 0.05 - 0.1 | Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground).<br><br>One application may be made pre-bloom and a second application may be made post-bloom.<br><br>For Crown Borer, apply 0.1 lb ai/a post harvest (fall) or pre bloom (spring), as a drench application directed at the crown of plants in a minimum of 200 gallons water per acre. Greater efficacy is observed at higher gallons (up to 400 gallons/a) or in an application prior to a significant rainfall event. Do not make both pre bloom foliar and pre bloom drench applications. |
| Raspberry Crown Borer<br>Spider Mites | 8.5 | 0.1 | |
| *Suppression of mummy berry, *botrytis* blight, bacterial canker, *anthracnose* fruit rot, *sclerotinia* | 4.3 - 8.5 | 0.05 - 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• One application may be made pre bloom and a second application may be made post bloom.<br>• Do not apply within 3 days of harvest. | | | |

**Caneberries (Crop Subgroup 13-07A) Restrictions:**

- Do not exceed 0.2 pound bifenthrin active ingredient per acre per season including at-plant, PRI, PRE, and foliar applications of F4120-1Soil Insecticide and other bifenthrin containing products.

## CANOLA, CRAMBE, RAPESEED**

### At-Plant

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Grape colaspis<br>Grubs<br>Root aphids<br>Seed corn beetle<br>Seed corn maggot<br>Stalkborer<br>Sugarcane beetle<br>True armyworm<br>Wireworm | 6.83 | 0.08 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia*, *Fusarium*, or *Phytophthora* | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Grape colaspis<br>Grubs<br>Root aphids<br>Seed corn beetle<br>Seed corn maggot<br>Stalkborer<br>Sugarcane beetle<br>True armyworm<br>Wireworm (PPI only) | PRE<br>6.83 | PRE<br>0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PRE herbicides |
| | PPI<br>6.83 | PPI<br>0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PPI herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 6.83 | 0.08 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Cutworms<br>Diamondback Moth<br>Loopers<br>Other Lepidopterous Larvae<br>Flea Beetle<br>Flea Hopper<br>Grasshopper<br>Plant Bug<br>Stink Bugs<br>Seedpod Weevil<br>Thrips<br>Whitefly | 2.8 - 3.4 | 0.033 - 0.04 | Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. .<br><br>When applying by air, 1 - 2 quarts of emulsified oil may be substituted for 1 - 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. |
| *Suppression of white mold/stem, rusts including *Uromyces appendiculatus, Pussinia* spp. , and Asian soybean rust, bacterial speck, bacterial pustule, brown spot, *Cercospora* Leaf Spot, Pod and Stem Blights, downy mildew | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 14 days apart.<br>• Do not apply within 35 days of harvest. | | | |

**Canola, Crambe, and Rapeseed Restrictions:**

- Do not apply more than 0.08 pound bifenthrin active ingredient per acre per season including at-plant, PRI, PRE, and foliar applications of F4120-1Soil Insecticide and other bifenthrin containing products.

## ** Not for use on Canola, Crambe, and Rapeseed in California

## CILANTRO, CORIANDER

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Armyworm species<br>Cutworm species<br>Flea beetle larvae | 3.4 - 6.8 | 0.2 - 0.39 | 0.04 - 0.08 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band) in-furrow with the seed, or broadcast to the soil surface. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Grape colaspis<br>Grubs<br>Root aphids<br>Seed corn beetle<br>Seed corn maggot<br>Wireworms (PPI Only) | PRE<br>3.4 – 6.8 | PRE<br>0.04 – 0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PRE herbicides |
| | PPI<br>3.4 –6.8 | PPI<br>0.04 – 0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PPI herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 6.8 | 0.04 – 0.08 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Beet Armyworm<br>Cabbage Looper<br>Cutworm<br>Flea beetle<br>Grasshoppers<br>Leafminer<br>Saltmarsh caterpillar<br>Spotted Cucumber beetle<br>Thrips<br>Whitefly | 2.8 – 8.5 | 0.033 - 0.1 | Apply using sufficient water to obtain uniform coverage.<br><br>Apply with ground equipment using a minimum of 10 gallons of finished spray per acre or a minimum of 2 gallons per acre by aircraft |
| Two Spotted Spider Mite | 6.8 – 8.5 | 0.08 - 0.1 | |
| *Suppression of powdery mildew, downy mildews, "damping off disease" – *Rhizoctonia, Pythium, Alternaria,* and *Fusarium* spp; Leaf spots, bacterial diseases, rusts | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 3 days of harvest. | | | |

**Cilantro and Coriander Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## CITRUS (BARE SOIL SURFACE UNDER DRIP LINE)

When applied as directed, F4120-1 will provide control of the pests listed in the table below. Apply F4120-1 by ground equipment to bare soil beneath citrus trees. F4120-1 must be uniformly applied from the trunk to the drip line of tree. Apply in a minimum of 40 gallons of dilute spray per acre.
Greater spray volume should insure greater uniformity of coverage. A pre- and post-application irrigation may aid in the uniformity of coverage as well.

F4120-1 protects citrus tree roots from *Diaprepes* and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with F4120-1 as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized.

Timing of F4120-1 applications is critical. Current information suggests that peak emergence of adult *Diaprepes* Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture. Typically, two peaks are observed for *Diaprepes*, first in spring then late summer or early fall. Southern Blue- Green and Blue-Green Citrus Weevils and Fuller Rose Beetle typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notchers typically exhibit three emergence peaks, spring, summer and fall. Since emergence varies seasonally and by location, timing of F4120-1 application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2 to 3 weeks following adult emergence. It is critical to have the F4120-1 soil barrier in place prior to drop of the neonates.

F4120-1 is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of F4120-1 should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.

Peak emergence of *Diaprepes* root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of *Diaprepes* root weevil may also occur in the fall.

If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 42.5 fluid ounces formulated product should be used to obtain the longest residual management of *Diaprepes* root weevil. If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 21.25 fluid ounces formulated product can be applied early season and 21.25 fluid ounces formulated product can be applied later in the season.

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Fire ants *(Solenopsis species)*<br>Asian cockroach *(Blattélla asahìnae)* | 8.5 - 21.25 | 0.1 - 0.25 | Apply in a minimum of 40 gallons of dilute spray per acre. |
| Diaprepes Root Weevil *(Diaprepes abbreviatus)*<br>Southern Blue Green Citrus Root Weevil *(Pachnaeus litus)*<br>Blue Green Citrus Root Weevil *(Pachnaeus opalus)*<br>Brown Leaf Notcher *(Epicaerus mexicanus)*<br>Little Leaf Notcher *(Artipus floridanus)*<br>Fuller Rose Beetle (*Asynonychus godmani)* | 21.25- 42.5 | 0.25 - 0.5 | |
| *Suppression of *Alternaria* leaf spot, postbloom fruit drop, greasy spot, citrus canker, scab, melanose | 8.5 – 42.5 | 0.1 – 0.5 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

**Citrus Restrictions:**

- Do not apply through irrigation systems.
- Do not allow any application of F4120-1 to contact fruit or foliage.
- Do not apply more than a total of 42.5 fluid ounces of formulated product (0.5 pound bifenthrin active ingredient) per acre per year.
- Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.
- Do not apply by air.

## CORN

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre* | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Corn rootworm larvae (Northern, Southern and Western) | 6.8 – 17.0 | 0.39 - 0.98 | 0.08 - 0.2 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. For Army cutworm, Stalkborer, Cutworm species, True armyworm or Armyworm species, apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface.<br>Heavy Corn Rootworm Pressure Management Program: In areas where large corn rootworm populations are present, a multi-approach system may be needed for optimal pest management. However, if the population level is not known and if a corn rootworm adult scouting program along with threshold adult control measures were not completed during the previous growing season, then utilize a maximum dosage seed treatment program or genetically modified corn rootworm resistant hybrid in addition to F4120-1. |
| Wireworm<br>Grape *colaspis*<br>Grubs<br>Seedcorn maggot<br>Root aphids<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species<br>Stalkborer<br>Seed corn beetle<br>Sugarcane beetle | 3.4 – 17.0 | 0.2 - 0.98 | 0.04 - 0.2 | |
| **Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.2 pound bifenthrin active per acre per season as an at-plant application. | | | | |

*****Based on 30" row spacing

** Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

| F4120-1 Required Per Acre for Various Row Spacings | | | | | |
|---|---|---|---|---|---|
| **Row Spacing** | **36"** | **30"** | **20"** | **15"** | **Twin Row 30" centers** |
| Linear row ft/acre | 14,520 ft | 17,424 ft | 26,136 ft | 34,848 ft | 34,848 ft |
| **Conversion** | | | | | |
| 0.19 Fluid oz/1000 Linear ft = | 2.8 fl oz/acre | 3.3 fl oz/acre | 5.0 fl oz/acre | 6.6 fl oz/acre | 6.6 fl oz/acre |
| 0.23 Fluid oz/1000 Linear ft = | 3.4 fl oz/acre | 4.0 fl oz/acre | 6.0 fl oz/acre | 8.0 fl oz/acre | 8.0 fl oz/acre |
| 0.31 Fluid oz/1000 Linear ft = | 4.5 fl oz/acre | 5.4 fl oz/acre | 8.1 fl oz/acre | 10.8 fl oz/acre | 10.8 fl oz/acre |
| 0.46 Fluid oz/1000 Linear ft = | 6.7 fl oz/acre | 8.0 fl oz/acre | 12.0 fl oz/acre | 16.0 fl oz/acre | 16.0 fl oz/acre |
| 0.55 Fluid oz/1000 Linear ft = | 8.0 fl oz/acre | 9.6 fl oz/acre | 14.4 fl oz/acre | | |
| 0.67 Fluid oz/1000 Linear ft = | 9.7 fl oz/acre | 11.7 fl oz/acre | | | |
| 0.80 Fluid oz/1000 Linear ft = | 11.6 fl oz/acre | 13.9 fl oz/acre | | | |
| 0.92 Fluid oz/1000 Linear ft = | 13.4 fl oz/acre | 16.0 fl oz/acre | | | |
| 0.98 Fluid oz/1000 Linear ft = | 14.3 fl oz/acre | 17.0 fl oz/acre | | | |

Rates less than the equivalent of 8.0 fl oz/A at 30" row spacing may not provide adequate control of corn rootworm.

**PRE & PPI**

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Black Cutworm<br>Grape colaspis<br>White Grub<br>Wireworm<br>Seedcorn Maggot<br>Armyworm species<br>Seed corn beetle | 4 to 5.3<br>Pre-Plant<br>Incorporated<br>(PPI) | 0.047 to 0.062<br>Pre-Plant<br>Incorporated<br>(PPI) | . For PPI treatments, the 4 - 5.3 fluid oz/A rate must be used. F4120-1 can be tank mixed and applied with PPI herbicides. Incorporation of F4120-1 should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. |
| Black Cutworm<br>Armyworm species<br>Stalkborer<br>Seed corn beetle | 3.4<br>Pre-Emergence<br>(PRE) | 0.04<br>Pre-Emergence<br>(PRE) | For PRE treatments, the 3.4 fluid oz/A rate may be applied and can be tank mixed and applied with PRE herbicides |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 to 5.3<br>(PPI and PRE) | 0.04 to 0.062<br>(PPI and PRE) | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Army Cutworm<br>Beet Armyworm<br>Cereal Leaf Beetle<br>Chinch Bug<br>Common Stalk Borer<br>Corn Earworm[1]<br>Corn Rootworm Adults<br>Cucumber Beetle Adult<br>Cutworm species<br>European Corn Borer[2]<br>Fall Armyworm<br>Flea Beetle<br>Grasshoppers<br>Greenbug<br>Japanese Beetle Adult<br>Sap Beetle<br>Southern Armyworm<br>Southern Corn Leaf Beetle<br>Southwestern Corn Borer[2]<br>Stinkbugs<br>Tarnished Plant Bug<br>True Armyworm or Armyworm species<br>Webworms<br>Western Bean Cutworm<br>Yellowstriped Armyworm | 2.8 – 8.5 | 0.033 - 0.1 | Apply in a minimum of 2-5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal.<br><br>When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.<br><br>Thorough coverage is essential to achieve control.<br><br>[1]**To Control Ear Attacking Pests**: Apply F4120-1Soil Insecticide just before silking and repeat as necessary to maintain control.<br>[2]**Southwestern Corn Borer, European Corn Borer**: Make application for corn borer control with initial application at or shortly before egg hatch.<br>**For Control of Other Insect Pests**: Apply when pests first appear and repeat as necessary.<br>[3]**For Control of Mites**: Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.<br>**For Twospotted Spider Mite and Carmine Mite control**, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions.<br>**For Mite Control in Texas, New Mexico, Oklahoma, and Arizona**: Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment |
| Banks Grass Mite[3]<br>Carmine Mite[3]<br>Twospotted Spider Mite[3] | 6.8 – 8.5 | 0.08 - 0.1 | |
| *Suppression of Common Rust, Southern Leaf Blight | 2.8 – 8.5 | 0.033 – 0.1 | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

**Foliar Restrictions:**

- For field corn
  - Do not apply within 30 days of harvest for field corn (grain and silage), popcorn, field corn grown for seed.
  - Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application for field corn (grain and silage), popcorn, field corn grown for seed.
- For sweet corn
  - Do not apply within 1 day of harvest for sweet corn or sweet corn grown for seed.
  - Do not graze livestock in treated areas or cut treated crops for feed within 1 day of the last application for sweet corn or sweet corn grown for seed.
- Use of ultra low volume (ULV) application on corn is prohibited.
- Do not make aerial or ground applications to corn if heavy rainfall is imminent.

**Corn Restrictions:**

- For field corn:
  - Do not apply more than 0.3 pound bifenthrin active ingredient per acre total per season including PPI, at-plant, PRE, and foliar applications of other bifenthrin products.
- For sweet corn:
  - Do not apply more than 0.2 pound bifenthrin active ingredient per acre total per season including PPI, at-plant, PRE, and foliar applications of other bifenthrin products.

## COTTON **

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Cutworm spp<br>White Grub<br>Wireworm<br>Grape colaspis<br>Root Maggot<br>Seedcorn Maggot | 1.7 – 8.5 | 0.1 – 0.5 | 0.02 – 0.1 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| * Use highest application rate for better disease management, however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | | |

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Cutworm species | PRE<br>3.4-8.5 | PRE<br>0.04 - 0.1 | |
| Cutworm species<br>White Grub<br>Wireworm<br>Grape colaspis<br>Root maggot<br>Seedcorn maggot | PPI<br>3.4 – 8.5 | PPI<br>0.04 - 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 8.5 | 0.04 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| European Corn Borer<br>Soybean (Banded) Thrips<br>Tobacco Thrips | 1.7 – 8.5 | 0.02 - 0.1 | Apply as needed using sufficient water to obtain uniform coverage. Apply with ground equipment using a minimum of 5 gallons of finished spray per acre or a minimum of 1 gallon per acre by aircraft.<br>F4120-1Soil Insecticide may be applied in water or refined vegetable oil (soybean/cottonseed).<br>**Application in Water**: Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.<br>**ULV Application**: Apply the recommended rate of F4120-1Soil Insecticide in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.<br>[1]**Boll Weevil:** Apply F4120-1Soil Insecticide at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.<br>[2]**Aphids and Mites:** Apply when pests first appear. Repeat as necessary to maintain control. Higher rates will be required once a damaging threshold is established. |
| Boll Weevil[1]<br>Bollworm<br>Cabbage Looper<br>Cotton Aphid[2]<br>Cotton Fleahopper<br>Cotton Leafperforator<br>Cutworms<br>Fall Armyworm<br>Plant Bugs<br>Saltmarsh Caterpillar<br>Southern Garden Leafhopper<br>Stink Bugs<br>Tobacco Budworm<br>Whitefly<br>Yellow Striped Armyworm | 3.4 – 8.5 | 0.04 - 0.1 | |
| Beet Armyworm<br>Carmine Spider Mite[2]<br>Lygus species<br>Pink Bollworm<br>Twospotted Spider Mite[2] | 5.1 – 8.5 | 0.06 - 0.1 | |
| *Suppression of white mold/stem rot, rusts, bacterial speck, bacterial pustule, brown spot, *Cercospora* leaf spot, pod and stem blights, downy mildew | 1.7 – 8.5 | 0.02 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not apply within 14 days of harvest.<br>• Do not graze livestock in treated areas or cut treated crops for feed. | | | |

**Cotton Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PRE, PPI, and foliar applications of F4120-1Soil Insecticide and other bifenthrin containing products.
- Do not make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include but are not limited to Ambush®, Ammo®, Asana® XL, Baythroid®, Baythroid XL®, Brigade®, Capture®, Danitol®, Declare ®, Discipline®, Fanfare®, Karate®, and Mustang®.

## ** Not for use on Cotton in California

## CUCURBITS

Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Gourd, edible *Lagenaria* species (includes hyotan, cucuzza), *Luffa* species (includes hechima, Chinese okra), *Momordica* species (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo*) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin (*Cucurbita* species), Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Squash, winter (includes butternut squash, calabaza, hubbard squash (*C. mixta; C. pepo*) includes acorn squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus* species).

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Cucumber beetle larvae | 6.8 - 8.5 | 0.39 - 0.49 | 0.08 - 0.1 | To control cucumber beetle larvae, apply as a 5 to 7 inch band over an open furrow (T-band), or in-furrow with the seed. |
| Wireworm<br>Grubs<br>Flea beetle larvae<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | To control wireworm, grubs, and flea beetle larvae, apply as a 5 to 7 inch band over an open furrow (T-band), or in-furrow with the seed or transplant<br>To control army cutworm, cutworm species, true armyworm and armyworm species, apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, broadcast to the soil surface or banded over the row. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Seed Corn Maggot<br>Wireworms<br>Army cutworm<br>Armyworm species<br>Cutworm species<br>Flea beetle larvae<br>Grubs<br>True Armyworm<br>True armyworm | PRE<br>6.8 – 8.5 | PRE<br>0.08 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PRE pesticides.<br>Apply through drip of drip tape.<br>Apply when soil is moist towards the end of the irrigation run. |
| | PPI<br>6.8 – 8.5 | PPI<br>0.08 - 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled pesticides.<br>Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth<br>Apply through drip or Drip tape.<br>Apply when soil is moist towards the end of the irrigation run. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 6.8 – 8.5 | 0.08 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Cabbage Looper<br>Corn Earworm<br>Cucumber beetles<br>Cutworms<br>Grasshopper<br>Leafhoppers<br>Melonworm<br>Pickleworm<br>Plant Bug<br>Rindworm<br>Squash Bugs<br>Squash Vine Borer<br>Stink Bugs<br>Tobacco Budworm | 3.4 – 8.5 | 0.04 – 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds<br><br>Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 gallons per acre with ground equipment When applying by air 1 2 quarts of emulsified oil may be substituted for 1 – 2 quarts of water in the finished spray Thorough coverage is essential to achieve control |
| Carmine Mite<br>Lygus species<br>Mite<br>Twospotted Spider Mite<br>Whitefly | 6.8 – 8.5 | 0.08 – 0.1 | |
| *Suppression of powdery mildew, downy mildew, gummy stem blight | 3.4 – 8.5 | 0.04 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make more than two applications after bloom.<br>• Do not make applications less than 7 days apart<br>• Do not apply within 3 days of harvest | | | |

**Cucurbits Restrictions:**

- Do not apply more than 0.3 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## DRIED BEANS AND PEAS

Dried cultivars of: Bean (*Lupinus*); Bean (*Phaseolus*), Field bean, Kidney bean, Lima bean (dry), Navy bean, Pinto bean, Tepary bean; Bean (*Vigna*), Adzuki bean, Blackeyed pea, Catjang, Cowpea, Crowder pea, Moth bean, Mung bean, Rice bean, Southern pea, Urd bean; Broad bean (dry), Chickpea, Guar, Lablab bean, Lentil; Pea (*Piscum*), Field pea, Pigeon pea.

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Grape colaspis<br>Wireworm<br>Grubs<br>Root maggot<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Grape colaspis<br>Grubs<br>Root maggot<br>True armyworm<br>Wireworm (PPI only) | PRE<br>6.8 – 8.5 | PRE<br>0.08 – 0.1 | F4120-1can be tank mixed and applied with PRE herbicides. Apply in a minimum of 10 gallons per acre. . |
| | PPI<br>6.8 – 8.5 | PPI<br>0.08 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre. . |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 6.8 – 8.5 | 0.08 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aster Leafhopper<br>Flea Beetle<br>Grasshoppers<br>Leafhoppers | 2.1 – 8.5 | 0.025 – 0.1 | Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. Thorough coverage is essential to achieve control.<br><br>When applying by air 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control |
| Alfalfa Caterpillar<br>Aphids<br>Bean Leaf Beetle<br>Beet Armyworm<br>Cloverworm<br>Corn Earworm<br>Corn Rootworm (Adult)<br>Cucumber Beetles<br>Cutworms<br>European Corn Borer<br>Fall Armyworm<br>Grasshoppers<br>Imported cabbageworm<br>Japanese beetle (Adult)<br>Leafminer<br>Loopers<br>Mexican Bean Beetle<br>Pea Leaf Weevil<br>Pea Weevil<br>Plant Bug<br>Saltmarsh caterpillar<br>Sap Beetle<br>Southern Armyworm<br>Stink Bugs<br>Tarnished Plant Bug<br>Thrips<br>Twospotted Spider Mite<br>Tobacco budworm<br>Webworms<br>Western Bean Cutworm<br>Whitefly<br>Yellowstriped Armyworm | 2.8 – 8.5 | 0.033 – 0.1 | |
| Banks Grass Mite<br>Carmine Mite<br>*Lygus* Species | 6.8 - 8.5 | 0.08 – 0.1 | |
| *Suppression of white mold, gray mold, powdery mildew, rusts including *Uromyces appendiculatus, Puccinia* spp. , and Asian soybean rust | 2.1 – 8.5 | 0.025 – 0.1 | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

**Foliar Restrictions:**

- Do not apply within 14 days of harvest
- Do not make applications less than 7 days apart

**Dried Beans and Peas Restrictions:**

- Do not apply more than 0.2 pound bifenthrin active ingredient per acre per season to peas or 0.3 pound bifenthrin active ingredient per acre per season to beans including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## EGGPLANT

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### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grubs<br>Root maggot<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army Cutworm, Cutworm Species, True Armyworm or Armyworm species. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Grubs<br>Root maggot<br>True armyworm<br>Wireworm | PRE<br>8.5 | PRE<br>0.1 | F4120-1can be tank mixed and applied with PRE pesticides<br>Post Plant Soil Applied: Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run. |
| | PPI<br>3.4 – 8.5 | PPI<br>0.04 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled pesticides.<br>Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth.<br>Post Plant Soil Applied: Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 8.5 | 0.04 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Armyworms (Including Beet) Armyworm Fall Armyworm Southern Cabbage Looper Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworms European Corn Borer Flea Beetle Leafminers Loopers Pepper weevil Plant Bug Stink Bug Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly Yellowstriped Armyworm | 2.8 – 8.5 | 0.033 – 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.<br><br>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.<br><br>Thorough coverage is essential to achieve control. |
| Banks Grass Mite Broad Mite Carmine Mite Lygus species Pacific Spider Mite Twospotted Spider Mite | 6.8 – 8.5 | 0.08 – 0.1 | |
| *Suppression of bacterial spot, bacterial speck, gray mold, powdery mildew, early blight, late blight | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 7 days of harvest. | | | |

**Eggplant Restrictions:**

- Do not apply more than 0.2 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE, and foliar applications of other bifenthrin products.

## GRAPES

### At-Plant

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Grape *Phylloxera* (suppression only)<br>White Grubs<br>Wireworms | 8.5 | 0.1 | Apply at time of planting over an open furrow in sufficient water for planting. May be applied through transplant water at time of transplanting. |

### PPI (Site Preparation) & PRE

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Vine Mealybug<br>Grape *Phylloxera* (suppression only) | PRE<br>8.5 | PRE<br>0.1 | F4120-1can be tank mixed and applied with PRE pesticides.<br>Post Plant Soil Applied: Apply through drip or Drop Tape. Apply when soil is moist towards the end of the irrigations run. |
| | PPI<br>8.5 | PPI<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI pesticide labeled for site preparation. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth.<br>Post Plant Soil Applied: Apply through drip or Drop Tape. Apply when soil is moist towards the end of the irrigations run. |

### Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Cutworms<br>Eastern Grape Leafhopper<br>Grape Berry Moth<br>Japanese Beetles Adults<br>Lady Beetle (Scymnus spp.)<br>Variegated Leafhopper<br>Western Grape Leafhopper<br>Grapevine root borer | 4.3 – 8.5 | 0.05 - 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.<br><br>Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment.<br>When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.<br>When pest pressure is moderate to severe, use higher rate. |
| Black Vine Weevil<br>Glassywinged Sharpshooter<br>Twospotted Spider Mite | 8.5 | 0.1 | |
| *Suppression of powdery mildew, gray mold, sour rot complex, downy mildew, *phomopsis, eutypa* | 4.3 – 8.5 | 0.05 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not apply within 30 days of harvest. | | | |

**Grape Restrictions:**

- Do not apply more than 0.1pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of F4120-1 and other bifenthrin containing products.

## HEAD LETTUCE

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grubs<br>Root maggot<br>Lettuce root aphid<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species<br>Bulb mites | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm species, True armyworm, armyworm species or bulb mites. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI

| PEST/DISEASE | USE RATES | |
|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre |
| Lettuce Root AphidGarden Symphylans | 6.8-8.5 | 0.08 – 0.1 |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | |
| * Use highest application rate for better disease management, however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | |

### Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Corn earworm<br>Cucumber Beetles<br>Cutworms<br>Diamondback Moth<br>Flea Beetles<br>Imported Cabbageworm<br>Leafhoppers<br>Loopers<br>Salt Marsh Caterpillar<br>Stink Bug species<br>Tobacco Budworm<br>Whitefly | 2.8 – 8.5 | 0.033 – 0.1 | Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment and 5 gallons per acre by air. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. |
| Carmine Mite<br>Lygus Species<br>Twospotted Spider Mite | 6.8 – 8.5 | 0.08 – 0.1 | |
| *Suppression of downy mildew, powdery mildew, bacterial blights, head and leaf drop, pink rot, leaf spots | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 7 days of harvest. | | | |

**Head Lettuce Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## HOPS

### At-Plant

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Grape colaspis<br>Rootworms<br>Sweet potato flea beetle<br>White grub<br>Wireworms | 5.1 – 8.5 | 0.06 - 0.1 | Apply in a T-band that ensures coverage of the entire furrow, immediately prior to planting, or at planting.. May also be applied as a soil drench with transplant water at time of transplanting.<br>Apply in a minimum of 10 gallons per acre of spray. |

### Lay-By

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Grape *colaspis*<br>Rootworms<br>Wireworms<br>White grub | 5.1 – 8.5 | 0.06 - 0.1 | Apply F4120-1to the transplant area and incorporate with cultivation equipment set to throw soil towards the hill.<br>Apply in a minimum of 10 gallons per acre of spray |

## PPI

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Grape *colaspis*<br>Rootworms<br>Wireworms<br>White grub | PPI<br>5.1 – 8.5 | PPI<br>0.06 – 0.1 | Apply F4120-1to the transplant area and incorporate to planting depth.<br>Apply in a minimum of 10 gallons per acre of spray.<br>May be applied as a broadcast application or an incorporated band application |

## PRE & Post Plant Soil Applied

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Grape *colaspis*<br>Rootworms<br>Wireworms<br>White grub | PRE<br>5.1 – 8.5 | PRE<br>0.06 – 0.1 | Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run. |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Cutworms<br>Leafrollers<br>Loopers | 5.1 – 8.5 | 0.06 - 0.1 | **Application by ground:** For best results, full coverage is essential. Early season recommend 100 – 150 gallons of spray per acre. Late season recommend 200 – 250 gallons of spray per acre.<br>**For Root Weevil control**, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.<br>**Application by air for late season control of twospotted spider mites:** Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per acre. |
| Root Weevils | 4.3 – 8.5 | 0.05 to 0.1 | |
| Twospotted spider mite | 8.5 | 0.1 | |
| *Suppression of powdery mildew | 4.3 – 8.5 | 0.05 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not exceed 0.1 lpound bifenthrin active ingredient per acre per foliar application.<br>• Do not make applications less than 21 days apart<br>• Do not apply within 14 days of harvest. | | | |

**Hops Restrictions:**

- Do not exceed 0.3 pound bifenthrin active ingredient per acre per season including at-plant, PRE, PPI, Layby and foliar application of F4120-1 and other bifenthrin containing products. .
- Use of ultra low volume (ULV) application on hops is prohibited.

## LEAFY BRASSICAS, TURNIP GREENS

Broccoli Raab, Bok Choy, Collards, Kale, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

### At Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grubs<br>Root maggot<br>Lettuce root aphid<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5-7 inch band over the row on the soil surface, a 5-7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm or armyworm species |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Lettuce root aphid<br>Root Maggots<br>Wireworms<br>Army cutworm<br>Armyworm species<br>Cutworm species<br>Flea beetle larvae<br>Grubs<br>True Armyworm<br>True armyworm | PRE<br>3.4 – 6.8 | PRE<br>0.04 – 0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PRE pesticides.<br>Post Plant Soil Applied: Apply thorugh drip or drip tape. Apply when soil is moist towards the end of the irrigation run. |
| | PPI<br>3.4 – 6.8 | PPI<br>0.04 – 0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled pesticides.<br>Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth.<br>Post Plant Soil Applied: Apply thorugh drip or drip tape. Apply when soil is moist towards the end of the irrigation run. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 6.8<br>PRE and PPI | 0.04 – 0.08<br>PRE and PPI | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

## Foliar

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Corn Earworm<br>Cutworms<br>Crickets<br>Cucumber Beetles<br>Diamondback Moth<br>Flea Beetles<br>Grasshoppers<br>Ground Beetles<br>Imported Cabbageworm<br>Japanese Beetle (adult)<br>Leafhoppers<br>Loopers<br>Saltmarsh Caterpillar<br>Stink Bugs<br>Tobacco Budworm<br>Thrips<br>Whitefly<br>Wireworm (adults) | 2.8 – 8.5 | 0.033 – 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.<br>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. |
| Banks Grass Mite<br>Carmine Mite<br>Lygus species<br>Pacific Spider Mite<br>Twospotted Spider Mite | 6.8 – 8.5 | 0.08 – 0.1 | |
| *Suppression of downy mildew, powdery mildew, bacterial blights, head and leaf drop, pink rot, leaf spots | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 7 days of harvest. | | | |

**Leafy Brassica and Turnip Greens Restrictions:**

- Do not apply more than 0.4 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## LEAFY PETIOLE VEGETABLES (Crop Subgroup 4B)

Including: Celery, Cardoon, Chinese celery, Celtuce, Florence fennel, Rhubarb, Swiss chard

### At-Plant

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Lettuce Root Aphid<br>Garden Symphylans<br>Cutworm spp. | 3.4 – 8.5 | 0.04 – 0.1 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. May be applied through transplant water at time of transplanting. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Flea beetle larvae<br>Grubs<br>True Armyworm<br>Wireworm<br>True armyworm | PRE<br>3.4 – 8.5 | PRE<br>0.04 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with labeled PRE pesticides. |
| | PPI<br>8.5 | PPI<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled pesticides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 8.5<br>PRE and PPI | 0.04 – 0.1<br>PRE and PPI | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Corn Earworm<br>Crickets<br>Cucumber Beetles<br>Cutworms<br>Diamondback Moth<br>Flea Beetles<br>Ground Beetles<br>Imported Cabbageworm<br>Leafhoppers<br>Loopers<br>Saltmarsh Caterpillar<br>Stink Bugs<br>Thrips<br>Tobacco Budworm<br>Whitefly<br>Wireworm (adults) | 3.4 – 8.5 | 0.04 - 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds. Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons of finished spray per acre with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. |
| Banks Grass Mite<br>Carmine Mite<br>Lygus species<br>Pacific Spider Mite<br>Twospotted Spider Mite | 6.8 - 8.5 | 0.08 - 0.1 | |
| *Suppression of downy mildew, powdery mildew, bacterial blights, head and leaf drop, pink rot, leaf spots | 3.4 – 8.5 | 0.04 – 0.1 | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

**Foliar Restrictions:**

- Do not make applications less than 7 days apart.
- Do not apply within 7 days of harvest.

**Leafy Petiole Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of F4120-1 and other bifenthrin containing products.

## OKRA

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Armyworm<br>Cutworm<br>Flea beetle larvae | 3.4 - 6.8 | 0.2 - 0.39 | 0.04 - 0.08 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Cutworm spp | PRE<br>3.4 – 8.5 | PRE<br>0.04 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI or PRE herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. |
| Cutworm species<br>Flea beetle larvae<br>Wireworm<br>White Grub<br>Grape colaspis<br>Root maggot | PPI<br>3.4-8.5 | PPI<br>0.04 to 0.1 | |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 8.5<br>PRE and PPI | 0.04 – 0.1<br>PRE and PPI | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms<br>Corn earworm<br>Cucumber Beetles<br>Cutworms<br>European Corn Borer<br>Flea Beetles<br>Japanese Beetle (Adult)<br>Leafminers<br>Loopers<br>Stink bugs<br>Thrips<br>Whitefly | 2.8 – 8.5 | 0.033 - 0.1 | Apply as needed using sufficient water to obtain uniform coverage.<br><br>Apply with ground equipment using a minimum of 10 gallons of finished spray per acre or a minimum of 2 gallons per acre by aircraft. |
| Broad Mite<br>Carmine Mite<br>Lygus species<br>Twospotted Spider Mite | 6.8 – 8.5 | 0.08 - 0.1 | |
| *Suppression of bacterial spot, bacterial speck, gray mold, powdery mildew, early blight, late blight | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 7 days of harvest. | | | |

**Okra Restrictions:**

- Do not apply more than 0.2 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## PEANUT **

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Thrips, Leafhoppers, Aphids, and Wireworms | 6.8 – 8.5 | 0.39 – 0.49 | 0.08 – 0.1 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Beet Armyworm<br>Corn Earworm<br>Cutworm species<br>Fall Armyworm<br>Grasshoppers<br>Green Cloverworm<br>Leafhoppers<br>Lesser Cornstalk borer<br>Loopers<br>Rednecked peanut worm<br>Southern Armyworm<br>Southern Corn Rootworm<br>Stink Bugs<br>Threecornered alfalfa hopper<br>Velvetbean caterpillar<br>Yellowstriped armyworm | 2.8 – 8.5 | 0.033 – 0.1 | Apply in a minimum of 10 gallons per acre with ground equipment or 2 gallon per acre by air craft |
| Aphids<br>Spider Mites<br>Thrips<br>Whitefly | 6.8 – 8.5 | 0.08 - 0.1 | |
| *Suppression of *Botrytis* spp., rusts, white mold, leaf spots | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 14 days apart<br>• Do not apply within 14 days of harvest.<br>• Do not feed green immature plants and peanut hay to livestock. | | | |

**Peanut Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of F4120-1 and other bifenthrin containing products.

**** Not for use on Peanuts in California**

## PEPPERS (BELL and NON-BELL)

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grubs<br>Root maggot<br>Flea beetle larvae<br>Pepper maggot<br>Root aphid<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species<br>Stalk borer | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm, Armyworm species or Stalk borer. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Flea beetle larvae<br>Grubs<br>True Armyworm<br>Wireworm<br>True armyworm | PRE<br>8.5 | PRE<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PRE pesticides<br>Post Plant Soil Applied: Apply through drip or drip tape. Apply when soil is moist towards the end of the irrigation run. |
| | PPI<br>3.4 – 8.5 | PPI<br>0.04 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled pesticides.<br>Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth.<br>Post Plant Soil Applied: Apply through drip or drip tape. Apply when soil is moist towards the end of the irrigation run. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 8.5<br>PRE and PPI | 0.04 – 0.1<br>PRE and PPI | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Armyworms (Including Beet) Armyworm Fall Armyworm Southern Cabbage Looper Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworms European Corn Borer Flea Beetle Leafminers Loopers Pepper weevil Plant Bug Stink Bug Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly Yellowstriped Armyworm | 2.8 – 8.5 | 0.033 - 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.<br><br>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment.<br><br>When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. |
| Broad Mite Carmine Mite Lygus species Pacific Spider Mite Twospotted Spider Mite | 6.8 – 8.5 | 0.08 - 0.1 | |
| *Suppression of bacterial spot, bacterial speck, gray mold, powdery mildew, early blight, late blight | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 7 days of harvest. | | | |

**Peppers (Bell and Non-bell) Restrictions:**

- Do not apply more than 0.2 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## ROOT CROPS (Except Sugar Beets and Garden Beets) (Crop Subgroup 1B)

Including: Burdock Edible, Carrot, Celeriac, Chervil Turnip Rooted, Chicory, , Ginseng, Horseradish, Parsley Turnip Rooted, Parsnip, Radish, Radish Oriental, Rutabaga, Salsify, Salsify Black, Salsify Spanish, Skirret, and Turnip.

### At-Plant

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Crown and Root Aphids<br>Flea Beetles<br>Cutworms<br>Seedcorn and Root Maggots<br>Wireworms | 8.5 | 0.1 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. May be applied through transplant water at time of transplanting. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Crown and Root Aphids<br>Flea Beetles<br>Cutworms<br>Seedcorn and Root Maggots<br>Wireworms | PRE<br>8.5 | PRE<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PRE pesticides |
| | PPI<br>8.5 | PPI<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 8.5 | 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Beet Armyworm<br>Celery Leaf Tier<br>Corn Earworm<br>Cross Striped Cabbageworm<br>Cutworms<br>Diamondback Moth<br>European Corn Borer<br>Fall Armyworm<br>Fire Ants<br>Flea Beetles<br>Green Cloverworm<br>Hornworms<br>Imported Cabbageworm<br>Loopers<br>Southern Armyworm<br>Spider Mites<br>Tobacco Budworm<br>Velvetbean Caterpillar<br>Whitefly<br>Yellowstriped Armyworm | 6.8 – 8.5 | 0.08 - 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.<br><br>Apply foliar treatments in at least 25 gallons per acre. |
| *Suppression of black root/crown rot, bacterial leaf blight, downy mildew, powdery mildew, gray mold, white mold, black leg/bacterial soft rot, early blight, late blight. | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 21 days of harvest. | | | |

**Root Crops Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, PRE, PPI and foliar applications of F4120-1 and other bifenthrin containing products.

## GARDEN BEETS.

### At-Plant

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Crown and Root Aphids<br>Flea Beetles<br>Cutworms<br>Seedcorn and Root Maggots<br>Wireworms | 8.5 | 0.1 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. May be applied through transplant water at time of transplanting. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Crown and Root Aphids<br>Flea Beetles<br>Cutworms<br>Seedcorn and Root Maggots<br>Wireworms | PRE<br>8.5 | PRE<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PRE pesticides |
| | PPI<br>8.5 | PPI<br>0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 8.5 | 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Fire Ants<br>Flea Beetles<br>Lepidopterous Larvae<br>Spider Mites<br>Whitefly | 6.8 – 8.5 | 0.08 - 0.1 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.<br><br>Apply foliar treatments in at least 25 gallons per acre. |
| * Suppression of black root/crown rot, bacterial leaf blight, downy mildew, powdery mildew, gray mold, white mold, black leg/bacterial soft rot, early blight, late blight. | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart<br>• Do not apply within 1 day of harvest | | | |

**Garden Beets Restrictions:**

- Do not apply more than 0.4 pound bifenthrin active ingredient per acre per season including at-plant, PRE, PPI and foliar applications of F4120-1 and other bifenthrin containing products.

## SOD FARMS

When applied as directed, F4120-1 will provide control of the pests listed in the table below. Apply as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage.
Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests including mole crickets.
The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, F4120-1 may be applied at up to 0.4 fluid oz. per 1000 square feet to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur.

### At-Plant

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound ai/acre | |
| Cutworms[1]<br>White Grub<br>Wireworm<br>Crickets<br>Earwigs<br>Ants<br>Chinch Bugs[5]<br>Imported Fire Ants[8] | 8.5 | 0.1 | Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. |

### PRE & PPI

| PEST | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound ai/acre | |
| Cutworms[1]<br>White Grub<br>Wireworm<br>Crickets<br>Earwigs<br>Ants<br>Chinch Bugs[5]<br>Imported Fire Ants[8] | PRE<br>8.5 | PRE<br>0.1 | Capture LFR Soil Insecticide can be tank mixed and applied with PPI and PRE herbicides. Incorporation of Capture LFR should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. |
| | PPI<br>8.5 | PPI<br>0.1 | |

### FOLIAR

| PEST | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 sq. ft. | Pound Bifenthrin/acre | |
| Armyworms[1]<br>Cutworms[1]<br>Sod Webworm[1] | 2.8 – 4.35 | 0.066 - 0.1 | 0.033 – 0.051 | Apply as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage.<br>Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests including mole crickets.<br>The application rates listed will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, F4120-1 may be applied at up to 0.4 fluid oz. per 1000 square feet to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur. |
| Annual Bluegrass Weevil (*Hyperodes*) (Adult)[2]<br>Banks Grass Mite[6]<br>Billbugs (Adult)[3]<br>Black Turfgrass Ataenius (Adult)[4]<br>Crickets<br>Earwigs<br>Fleas (Adult)<br>Grasshoppers<br>Mealybugs<br>Mites[6] | 4.35 - 8.7 | 0.1 - 0.2 | 0.051 – 0.102 | |
| Ants<br>Chinch Bugs[5]<br>Fleas (Larvae)[7]<br>Imported Fire Ants[8]<br>Japanese Beetle (Adult)<br>Mole Cricket (Adult)[9]<br>Mole Cricket (Nymph)[10]<br>Ticks[11] | 8.7- 17.42 | 0.2 - 0.4 | 0.102 – 0.204 | |

**In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).**

**In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.**

**Comments**

[1]**Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.4 fluid oz. per 1000 square feet) may be required during periods of high pest pressure.

[2]**Annual Bluegrass Weevil (*Hyperodes*) adults:** Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when *Forsythia* is in full bloom and concludes when flowering dogwood (*Cornus florida*) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

[3]**Billbug adults:** Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

[4]**Black Turfgrass *Ataenius* adults:** Applications should be made during May and July to control the first and second generation of black turfgrass ataenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (*Spiraea vanhouttei*) and horse chestnut (*Aesculus hippocastanum*). The July application should be timed to coincide with the blooming of Rose of Sharon (*Hibiscus syriacus*).

[5]**Chinch Bugs:** Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher application rates (up to 0.4 fluid oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

[6]**Mites:** To ensure optimal control of *eriophyid* mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.

[7]**Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area is being treated with this product at 0.1 fluid oz. per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

[8]**Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Broadcast treatments should apply 0.4 fluid oz. per 1,000 square feet. Mounds should be treated by diluting 0.05 fluid oz of F4120-1 per gallon of water and applying 1 to 2 gallons of finished spray per mound. The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. A four foot diameter circle around the mound should also be treated. For best results, apply in cool weather (65 - 80°F) or in early morning or late evening hours.

[9]**Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Grass areas that receive pressure from adult mole crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

[10]**Mole Cricket nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.

[11]**Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever):** Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application must be limited to no more than once per seven days.

**Deer ticks (*Ixodes sp.*)** have a complicated life cycle that ranges over a two year period and involves four life stages. Applications should be made in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.

**American dog ticks** may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

## SOYBEANS **

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### At Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Rootworm larvae | 6.8 - 8.5 | 0.39 - 0.49 | 0.08 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species |
| Wireworm<br>Grape colaspis Grubs<br>Root maggot<br>Seedcorn maggot<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species<br>Seed corn beetle | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Black Cutworm<br>White Grub<br>Wireworm<br>Seedcorn Maggot<br>Armyworm species<br>Seed corn beetle | 4 to 5.3<br>Pre-Plant Incorporated (PPI) | 0.047 to 0.062<br>Pre-Plant Incorporated (PPI) | For PPI treatments, the 4 - 5.3 fluid oz/A rate must be used. F4120-1 can be tank mixed and applied with PPI herbicides. Incorporation of F4120-1 should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. |
| Black Cutworm<br>Armyworm species<br>Stalkborer<br>Seed corn beetle | 3.4<br>Pre-Emergence (PRE) | 0.04<br>Pre-Emergence (PRE) | For PRE treatments, the 3.4 fluid oz/A rate may be applied and can be tank mixed and applied with PRE herbicides |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 to 5.3<br>(PPI and PRE) | 0.04 to 0.062<br>(PPI and PRE) | |
| **PPI/PRE Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as PPI or PRE application | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Alfalfa Caterpillar<br>Aphids<br>Armyworms<br>Bean Leaf Beetle<br>Blister Beetle species<br>Corn Earworm<br>Corn Rootworm Adult<br>Cowpea Curculio<br>Cucumber Beetle Adult<br>Cutworms<br>Dectes Stem Borer<br>European Corn Borer<br>False Cinch Bug<br>Flea Beetle<br>Grasshoppers<br>Green cloverworm<br>Hornworms<br>Imported Cabbageworm<br>Japanese Beetle Adult<br>Leaf Skeletonizer species<br>Leafhoppers<br>Leafminers Adults<br>Lesser Cornstalk Borer<br>Loopers<br>Kudzu Bug<br>Mexican Bean Beetle<br>Painted Lady (Thistle) Caterpillar<br>Pea Leaf Weevil<br>Saltmarsh Caterpillar<br>Seedcorn Maggot Adult<br>Silverspotted Skipper<br>Spittlebug<br>Stink Bug<br>Three Cornered Alfalfa Hopper<br>Thrips<br>Tobacco Budworm<br>Velvetbean Caterpillar<br>Webworm<br>Woollybear Caterpillar | 2.8 – 8.5 | 0.033 - 0.1 | Apply in a minimum of 10 gallons per acre with ground equipment or 2 gallon per acre by aircraft.<br><br>Pyrethroid resistance is common for Beet Armyworm and Tobacco Budworm. Please consult your local or state agricultural authority to determine if resistant pest populations are in your area. If so, refer to the resistance management statement in the DIRECTIONS FOR USE section of this label. |
| Lygus species<br>Whitefly<br>Twospotted spider mite | 6.8 – 8.5 | 0.08 - 0.1 | |
| *Suppression of white mold, gray mold, powdery mildew, rusts including *Uromyces appendiculatus, Puccinia* spp., and Asian soybean rust | 2.8 – 8.5 | 0.033 – 0.1 | |

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| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. |
| **Foliar Restrictions:**<br>• Do not make applications less than 30 days apart<br>• Do not apply within 18 days of harvest. |

**Soybeans Restrictions:**

- Do not apply more than 0.2 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## ** Not for use on Soybeans in California

## SPINACH

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grubs<br>Root maggot<br>Seedcorn maggot<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI

| PEST/DISEASE | USE RATES | |
|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre |
| Seed Corn Maggot<br>Wireworms<br>Garden Symphylans | PPI<br>3.4 – 6.8 | PPI<br>0.04 – 0.08 |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | |
| * Use highest application rate for better disease management, however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Armyworms<br>Colorado Potato Beetle<br>Corn earworm<br>Cucumber Beetles<br>Cutworms<br>European Corn Borer<br>Flea Beetles<br>Leafminers<br>Loopers<br>Pepper Weevil<br>Tomato Hornworm<br>Tomato Pinworm<br>Thrips<br>Whitefly | 2.8 – 8.5 | 0.033 to 0.1 | For control of whiteflies, apply foliar treatments of F4120-1Soil Insecticide by ground or air at rates of up to 0.1 lb active per acre at minimum 7 day intervals up to a maximum of 4 applications. Do not apply within 40 days of harvest.<br><br>For control of fire ants apply F4120-1Soil Insecticide to the soil (at planting) or as a foliar treatment by ground or air at rates of up to 0.1 lb active per acre at minimum 7 day intervals up to a maximum of 4 applications.<br><br>Apply the specified dosage in 5-50 gallons of finished spray per acre by air or 10-50 gallons finished spray per acre by ground. |
| Banks Grass Mite<br>Broad Mite<br>Carmine Mite<br>Fire Ants<br>Lygus species<br>Pacific Spider Mite<br>Twospotted spider mite | 6.8 – 8.5 | 0.08 to 0.1 | |
| *Suppression of downy mildew, powdery mildew, bacterial blights, head and leaf drop, pink rot, leaf spots | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 7 days apart.<br>• Do not apply within 40 days of harvest | | | |

**Spinach Restrictions:**

- Do not apply more than 0.4 pound bifenthrin active ingredient per acre per season including at-plant, PPI, and foliar applications of other bifenthrin products.

## SUCCULENT PEAS AND BEANS

Pea (*Pisum* species): Dwarf pea, Edible-pod pea, English pea, Garden pea, Green pea, Snow pea, Sugar snap pea, Pigeon pea; Bean (*Phaseolus* species): Broadbean (succulent), Lima bean (green), Runner bean, Snap bean, Wax bean; Bean, *Vigna* species): Asparagus bean, Blackeyed pea, Chinese longbean, Cowpea, Moth bean, Southern pea, Yardlong bean, Jackbean, Soybean (immature seed), Sword bean

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grape colaspis<br>Grubs<br>Root maggot<br>Seedcorn maggot<br>Army cutworm<br>Cutworm species<br>True armyworm<br>Armyworm species | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI & PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Grape colaspis<br>Grubs<br>Root maggot<br>True armyworm<br>Wireworm (PPI only) | PRE<br>6.8 – 8.5 | PRE<br>0.08 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PRE herbicides.<br><br>Post Plant Soil Applied: Apply through drip or Drip Tape. Apply when soil is moist towards the end of the irrigation run. |
| | PPI<br>6.8 – 8.5 | PPI<br>0.08 – 0.1 | F4120-1Soil Insecticide can be tank mixed and applied with PPI herbicides. Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre. .<br>Post Plant Soil Applied: Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 6.8 – 8.5 | 0.08 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aster<br>Flea Beetle<br>Leafhopper | 2.1 – 8.5 | 0.025 - 0.1 | Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment.<br>When applying by air, 1 – 2 quarts of emulsified oil may be substituted for 1 – 2 quarts of water in the finished spray.<br>Thorough coverage is essential to achieve control.<br>Make application at the onset of infestation reaching locally determined economic threshold. |
| Adult Sap Beetle<br>Alfalfa Caterpillar<br>Aphids<br>Armyworm, Beet<br>Armyworm, Fall<br>Armyworm, Southern<br>Armyworm, Yellowstriped<br>Bean Leaf Beetle<br>Cloverworm<br>Corn earworm<br>Corn Rootworm Adult<br>Cucumber Beetle<br>Cutworms<br>European Corn Borer<br>Grasshoppers<br>Japanese Beetle<br>Loopers<br>Pea Leaf Weevil<br>Pea Weevil<br>Plant Bug<br>Stink Bugs<br>Tarnished Plant Bug<br>Thrips<br>Webworms<br>Western Bean Cutworm<br>Whitefly | 2.8 – 8.5 | 0.033 - 0.1 | |
| Banks Grass Mite<br>Carmine Mite<br>Lygus species<br>Twospotted spider mite | 6.8 – 8.5 | 0.08 to 0.1 | |
| *Suppression of white mold, gray mold, powdery mildew, rusts including *Uromyces appendiculatus, Puccinia* spp., and Asian soybean rust | 2.1 – 8.5 | 0.025 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not apply within 3 days of harvest.<br>• Do not make applications less than 3 days apart | | | |

**Succulent Peas and Beans Restrictions:**

- Do not apply more than 0.2 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## TOBACCO

### PRE-TRANSPLANT and AT-TRANSPLANT

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Cutworm species<br>Flea beetle larvae<br>White grubs<br>Wireworm<br>Mole cricket<br>Armyworm species<br>Stalkborer | 3.4 – 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | **Pre-transplant soil applications:**<br>Use of suitable equipment to incorporate into top 4" of the soil is required to control below ground pests.<br><br>**At-transplant water treatment application:**<br>Apply 5.3 to 8.5 fluid ounces F4120-1 per acre (0.0625 to 0.1 lb bifenthrin active ingredient/A) in a water treatment application volume of 10 to 200 gal/A. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **Pre-transplant and at-transplant Restrictions:**<br>• Do not apply later than lay-by. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphid spp.*<br>Armyworm spp.<br>Chinch Bugs<br>Cutworm spp.<br>Flea Beetle (Adults)<br>Grasshoppers<br>Green Bugs<br>Japanese Beetles<br>Stink Bugs<br>Thrips<br>Whiteflies<br>Tarnished plant bugs | 3.4 – 8.5 | 0.04 - 0.1 | Apply 0.04 to 0.10 lb ai/A per foliar application up to, and including, layby in a minimum of 10 gal/A.<br>May be tank mixed with Command, Spartan and other herbicides approved for tobacco use.<br>*See resistance statement under "Directions for Use" section. |
| Hornworm<br>Tobacco Budworm | 6.8 - 8.5 | 0.08- 0.1 | |
| Spider mites<br>Lygus spp. | 8.5 | 0.1 | |
| *Suppression of angular leaf spot, anthracnose, blue mold or downy mildew, brown spot, barn spot/frogeye leaf spot, collar rot, gray mold, powdery mildew, target spot | 3.4 – 8.5 | 0.04 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make more than 2 foliar applications per season.<br>• Do not apply later than layby. | | | |

**Tobacco Restrictions:**

- Do not apply more than 0.2 pound bifenthrin active ingredient per acre per season including at plant, PRE, PPI and foliar applications of other bifenthrin containing products.
- May be tank mixed with Command, Spartan and other herbicides approved for tobacco use.

## TOMATOES, TOMATILLOS, GROUNDCHERRY

### At-Plant

| PEST/DISEASE | USE RATES | | | DIRECTIONS |
|---|---|---|---|---|
| | Fluid oz/acre | Fluid oz/1000 Linear ft. | Pound bifenthrin/acre | |
| Wireworm<br>Grubs<br>Root maggot<br>Flea beetle larvae<br>Army cutworm<br>Cutworm speciesTrue armyworm<br>Armyworm species<br>Stalkborer | 3.4 - 8.5 | 0.2 - 0.49 | 0.04 - 0.1 | Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm species, True armyworm, Armyworm species or Stalkborer. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | | |
| **At-Plant Restrictions:**<br>• Do not apply more than 0.1 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### PPI &PRE

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Army cutworm<br>Armyworm species<br>Cutworm species<br>Flea beetle larvae<br>Garden Symphylans<br>Grubs<br>True Armyworm<br>Wireworm<br>True armyworm | PRE<br>6.8 | PRE<br>0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PRE herbicides.<br>Post Plant Soil Applied: Apply through drip or Drip Tape. Apply when soil is moist towards the end of the irrigation run. |
| | PPI<br>3.4 –6.8 | PPI<br>0.04 – 0.08 | F4120-1Soil Insecticide can be tank mixed and applied with PPI labeled herbicides.<br>Incorporation of F4120-1Soil Insecticide should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth<br>Post Plant Soil Applied: Apply through drip or Drip Tape. Apply when soil is moist towards the end of the irrigation run. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | 3.4 – 6.8<br>PRE and PPI | 0.04 -0.08<br>PRE and PPI | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

## Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Aphids<br>Armyworms (including Beet)<br>Armyworm, Fall<br>Armyworm, Southern<br>Bean Leaf Beetle<br>Cabbageworm<br>Carmine Mite<br>Cloverworm<br>Corn earworm<br>Corn Rootworm<br>Cucumber Beetles<br>Cutworms<br>Diamondback Moth<br>European Corn Borer<br>Flea Beetles<br>Flea Hopper<br>Grasshopper<br>Japanese Beetle (Adult)<br>Leafhoppers<br>Loopers<br>Lygus species<br>Melonworm<br>Pea Weevil<br>Pea Leaf Weevil<br>Pickleworm<br>Plant Bug<br>Rindworm<br>Salt Marsh Caterpillar<br>Sap Beetle<br>Seedpod Weevil<br>Squash Bugs<br>Stink bug species<br>Tobacco Budworm<br>Tarnished Plant Bug<br>Thrips<br>Whitefly<br>Yellowstriped Armyworm | 2.8 – 6.8 | 0.033 to 0.08 | Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic levels.<br>Apply in water. Apply the specified dosage in 5 to 50 gallons of finished spray per acre by air or 10 to 50 gallons of finished spray per acre by ground. Thorough coverage is essential to achieve control. |
| Twospotted spider mite | 6.8 – 8.5 | 0.08 - 0.1 | |
| *Suppression of bacterial spot, bacterial speck, gray mold, powdery mildew, early blight, late blight | 2.8 – 8.5 | 0.033 – 0.1 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 10 days apart.<br>• Do not apply within 1 day of harvest. | | | |

**Tomatoes, Tomatillos, and Groundcherry Restrictions:**

- Do not apply more than 0.32 pound bifenthrin active ingredient per acre per season including at-plant, PPI, PRE and foliar applications of other bifenthrin products.

## TREE NUTS

Including: African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English; yellowhorn; cultivars, varieties, and/or hybrids of these

### Foliar

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Black Pecan Aphid<br>Codling Moth<br>Filbert Worm<br>Hickory Shuckworm<br>Leaffooted Bugs<br>Navel Orangeworm<br>Oblique Banded Leafroller<br>Peach Twig Borer<br>Pecan Leaf Casebearer<br>Pecan Nut Casebearer<br>Pecan Phylloxera<br>Plant Bugs<br>Stink Bugs<br>Walnut Aphid<br>Yellow Pecan Aphid | 4.3 – 17.1 | 0.05 - 0.2 | Apply by ground or air equipment using sufficient water to obtain full coverage of foliage. Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) by ground or apply the specified amount in a minimum of 10 gallons of finished spray per acre by air |
| European Red Mite<br>Pecan Weevil<br>Spider Mite species | 6.8 – 17.1 | 0.08 - 0.2 | |
| Fire ants<br>Walnut Husk Fly | 8.5 – 17.1 | 0.1 - 0.2 | |
| *Suppression of walnut blight, anthracnose, bacterial canker, shot hole, brown rot, pecan scab | 4.3 – 17.1 | 0.05 – 0.2 | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make applications less than 15 days apart.<br>• Do not apply within 21 days of harvest for pecans and 7 days for all other registered tree nut crops.<br>• Do not graze livestock in treated orchards or cut treated cover crops for feed. | | | |

**Tree Nuts Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient (1 quart) per acre per season including at-plant, PRE, PPI and foliar applications of F4120-1 and other bifenthrin containing products.

## TUBEROUS AND CORM VEGETABLES

Potato, Sweet potato, Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Edible canna, Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen (taro), Ginger, Leren, Tanier, Turmer, Yam bean, True yam

### At-Plant

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Wireworms<br>Grape colaspis<br>White grub<br>Sweet potato flea beetle<br>Rootworms | 12.75 - 25.5 | 0.15 - 0.3 | F4120-1 may be applied as a soil incorporated broadcast, directed bed spray or a T-band spray into the planting furrow for the control of wireworms, rootworms, sweet potato flea beetle and white grubs. Apply F4120-1 at the rate of 0.15 to 0.3 pounds bifenthrin active ingredient (12.75 to 25.5 fluid ounces formulated) per acre in a minimum of 10 gallons per acre of spray |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | |
| **At-Plant Restrictions:**<br>Do not apply more than 0.3 pound bifenthrin active ingredient per acre per season as an at-plant application. | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

### LAY-BY

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Wireworms<br>Grape colaspis<br>White grub<br>Rootworms | 12.75 - 25.5 | 0.15 - 0.3 | F4120-1 may be applied as one or more soil directed and incorporated treatments at cultivation or lay-by for the control of wireworms, rootworms and white grubs. Apply F4120-1 to the drill area and incorporate by cultivation equipment set to throw soil towards the drill area. Apply F4120-1 at a rate of 0.15 to 0.3 pound bifenthrin active ingredient (12.75 to 25.5 fluid ounces formulated) per acre in a minimum of 10 gallons per acre of spray. |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | |

* Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance.

**PPI**

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Grape colaspis<br>Rootworms<br>Wireworms<br>White grub | 12.75 – 25.5 | 0.15 – 0.3 | Apply F4120-1to the transplant area and incorporate to planting depth. Apply F4120-1Soil Insecticide in a minimum of 10 gallons per acre of spray. May be applied as a broadcast application or an incorporated band application |
| *Suppression of "Damping off," seedling blights , and root or crown diseases caused by *Pythium, Rhizoctonia, Fusarium*, or *Phytophthora* | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |

**Foliar**

| PEST/DISEASE | USE RATES | | DIRECTIONS |
|---|---|---|---|
| | Fluid oz/acre | Pound bifenthrin/acre | |
| Banded Cucumber beetle<br>Black flea beetle<br>Corn wireworm<br>Cucumber beetle<br>Japanese beetle grubs<br>June beetle<br>Rootworms<br>Southern potato wireworm<br>Sugarcane beetle<br>Sweetpotato flea beetle<br>Sweetpotato weevil<br>Tobacco wireworm<br>Whitefringed beetle<br>White grub | 2.8 – 8.5 | 0.033 - 0.1 | Apply in a minimum of 3 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment.<br>F4120-1Soil Insecticide may be applied as a foliar spray for the control of the adult life stages of flea beetles, click beetles (wireworms), cucumber beetles (rootworms), white fringed beetles and May/June beetles (white grubs). |
| *Suppression of black root/crown rot, bacterial leaf blight, downy mildew, powdery mildew, gray mold, white mold, black leg/bacterial soft rot, early blight, late blight, | | | |
| * Use highest application rate for better disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-1 with other fungicides for improved performance. | | | |
| **Foliar Restrictions:**<br>• Do not make more than 2 foliar applications per season<br>• Do not make applications less than 21 days apart.<br>• Do not apply within 21 days of harvest. | | | |

**Tuberous and Corm Vegetables Restrictions:**

- Do not apply more than 0.5 pound bifenthrin active ingredient per acre per season including at-plant, lay-by, PPI and foliar applications of other bifenthrin products.

## STORAGE AND DISPOSAL

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

**Pesticide Storage**

If storing this product below freezing, user should shake or roll the container to ensure proper product consistency. Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Store at less than 95°F. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call CHEMTREC (Transportation and Spills): (800)-424-9300. To confine spill, dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container, Identify contents.

**Pesticide Disposal**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

**Container Handling**

**U-Turn® Container:** Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

**Metal or Plastic Container: Non-refillable container (in sizes 5 gallons or less):** Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds, pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

**Non-refillable container (in sizes greater than 5 gallons):** Do not reuse or refill this container. Triple rinse or pressure rinse. **Triple rinse as follows**: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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 back and forth several times. Turn the container over onto its other end and tip 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, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers. **Pressure rinse as follows**: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

**Returnable/Refillable Containers (if other than U-Turn Container):** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## Conditions of Sale and Limitation of Warranty and Liability:

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control or FMC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

**Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. To the extent consistent with applicable law, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and buyer assumes the risk of any such use.**

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

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

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**Rev: 2017-05-15**