



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

November 19, 2021

Tim Formella  
Senior Product Registration Manager  
FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104

Subject: PRIA Label Amendment – New use, adding sunflower subgroup 20B,  
incorporation of ID label mitigation  
Product Name: F4120-2  
EPA Registration Number: 279-3632  
Application Dates: 09/07/2018, 2/18/2021  
Decision Numbers: 544220, 571127

Dear Mr. Formella:

The application referred to above, submitted under the Federal Insecticide, Fungicide and Rodenticide Act, as amended is acceptable under FIFRA sec 3 (c)(5). You must submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the Bifenthrin Interim Decision, and has concluded that your submission is acceptable.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) 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 12 months from the date of this letter. After 12 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.

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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, you may contact Hester Dingle at 202-566-2596 or via email at [dingle.hester@epa.gov](mailto:dingle.hester@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'J S', with a long horizontal stroke extending to the right.

Jennifer Saunders, PhD, Chief  
Invertebrate & Vertebrate Branch 1  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

# RESTRICTED USE PESTICIDE

Due to toxicity 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.

BIFENTHRIN	GROUP	3A	INSECTICIDE
B. AMYLOLIQUEFACIENS	GROUP	BM 02	FUNGICIDE

# F4120-2

[ABN: Ethos 3D Insecticide/Fungicide]

Liquid insecticide/fungicide for use in a 3RIVE 3D system only.

EPA Reg. No. 279-3632

EPA Est. No. \_\_\_\_\_

**Active Ingredient:**

	By Wt.
Bifenthrin *: .....	15.67%
<i>Bacillus amyloliquefaciens</i> strain D747 **: .....	5.50%
Other Ingredients: .....	78.83%
	100.00%

\*Cis isomers 97% minimum, trans isomers 3% maximum

\*\* Contains a minimum of  $1.0 \times 10^{10}$  colony-forming units (cfu) per milliliter of product

This product contains 1.4 lbs. bifenthrin per gallon.

**ACCEPTED**

11/19/2021

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 279-3632

## KEEP OUT OF REACH OF CHILDREN WARNING AVISO

This label must be in the possession of the user at the time of application.  
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

See other panels for additional precautionary information.

FIRST AID	
<b>If in Eyes:</b>	-Hold eye open and rinse slowly and gently with water for 15-20 minutes. -Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. -Call a poison control center or doctor for treatment advice.
<b>If Swallowed:</b>	-Call a poison control center or doctor immediately for treatment advice. -Have person sip a glass of water if able to swallow. -Do not induce vomiting unless told to do so by a poison control center or doctor. -Do not give anything by mouth to an unconscious person.
<b>If on Skin:</b>	-Take off contaminated clothing. -Rinse skin immediately with plenty of water for 15-20 minutes. -Call a poison control center or doctor for treatment advice.
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 contains 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.	

Net Contents: \_\_\_\_\_

**Sold By:**

FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104

# PRECAUTIONARY STATEMENTS

## Hazards to Humans and Domestic Animals

### WARNING

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed or if absorbed through skin. Avoid contact with skin. 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. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

### Personal Protective Equipment (PPE):

#### Mixers, Loaders and Applicators must wear:

- Protective eyewear
- Long-sleeved shirt and long pants
- Waterproof gloves or chemical-resistant gloves made of barrier laminate, butyl rubber (≥ 14 mils), nitrile rubber (≥ 14 mils), neoprene rubber (≥ 14 mils), natural rubber (≥ 14 mils), polyethylene, polyvinyl chloride (PVC) (≥ 14 mils), or viton (≥ 14 mils)
- Shoes plus socks
- Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any R or P filter; OR a NIOSH-approved powered air-purifying respirator with HE filters.

### User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

### Engineering Controls

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

### User Safety Recommendations

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into 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 washwater. 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 if bees are visiting the treatment area. **Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.** 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.

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

F4120-2 must be applied in-furrow with the seed or transplant. Do not make foliar applications of this product.

Do not apply this product by air.

**3RIVE 3D System Information:** F4120-2 must be applied with a 3RIVE 3D system. Refer to the 3RIVE 3D equipment and user manual for information on system operation and calibration.

## 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: Protective eyewear, Coveralls, Waterproof gloves or chemical-resistant gloves such as barrier laminate, butyl rubber ( $\geq 14$  mils), nitrile rubber ( $\geq 14$  mils), neoprene rubber ( $\geq 14$  mils), natural rubber ( $\geq 14$  mils), polyethylene, polyvinyl chloride (PVC) ( $\geq 14$  mils), or viton ( $\geq 14$  mils), and Shoes plus socks.

## Resistance Management

For resistance management, please note that F4120-2 contains both a Group 3A insecticide and Group BM 02 fungicide. Any insect population may contain individuals naturally resistant to F4120-2 and other Group 3A insecticides. Likewise, any fungal population may contain individuals naturally resistant to F4120-2 and other Group BM 02 fungicides. The resistant individuals may dominate the insect population if Group 3A insecticides are used repeatedly in the same fields. A gradual or total loss of pest control may occur over time if Group BM 02 fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide and fungicide resistance, take one or more of the following steps:

- Rotate the use of F4120-2 or other Group 3A insecticides and Group BM 02 fungicides within a growing season, or among growing seasons, with different groups that control the same insect pests or fungal pathogens.
- Use tank mixtures with insecticides and fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pests.
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticidal activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest and disease management program for insecticide and fungicide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest/pathogen problems in your area.

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 labeled rates and in accordance with the use directions.

## Application and Mixing Instructions

F4120-2 is an insecticide/fungicide for in-furrow at plant applications. This product contains 1.4 pounds per gallon of the insecticide bifenthrin together with the biopesticide *Bacillus amyloliquefaciens* strain D747 at a minimum of  $1 \times 10^{10}$  colony-forming units (cfu) per milliliter. *Bacillus amyloliquefaciens* strain D747 is a naturally occurring beneficial bacterium used for early season suppression of fungal plant diseases. The rate of application is variable according to pest pressure. Use lower labeled rates under light to moderate pest infestations, and higher labeled rates under heavier pest pressure. In arid climates application rates are generally higher. F4120-2 must be used in equipment designed specifically for application of this type of formulation.

F4120-2 must be applied in-furrow with the seed or transplant.

Do not mix with any other product unless that product has been specifically designed to work with the F4120-2 formulation.

Use rates in the individual crop sections are listed as Fluid oz/1000 Linear feet based on 30-inch row spacings. For conversion to rates applicable to different row spacings, see the table below.

Do not exceed the maximum application rate per acre per year (lb ai/A/year) as listed under the use directions for each crop.

F4120-2 Insecticide Required Per Acre for Various Row Spacings						
Row Spacing	36"	30"	20"	15"	Twin Row 30" Centers	7.5"
Linear row ft/A	14,520 ft	17,424 ft	26,136 ft	34,848 ft	34,848 ft	69,696 ft
Conversion						
0.21 Fluid oz/1000 Lin ft =	3.1 fl oz/A	3.7 fl oz/A	5.5 fl oz/A	7.4 fl oz/A	7.4 fl oz/A	15.0 fl oz/A
0.26 Fluid oz/1000 Lin ft =	3.8 fl oz/A	4.6 fl oz/A	6.9 fl oz/A	9.2 fl oz/A	9.2 fl oz/A	18.3 fl oz/A
0.32 Fluid oz/1000 Lin ft =	4.6 fl oz/A	5.5 fl oz/A	8.2 fl oz/A	11.1 fl oz/A	11.1 fl oz/A	
0.42 Fluid oz/1000 Lin ft =	6.1 fl oz/A	7.3 fl oz/A	11.0 fl oz/A	14.6 fl oz/A	14.6 fl oz/A	
0.52 Fluid oz/1000 Lin ft =	7.6 fl oz/A	9.1 fl oz/A	13.7 fl oz/A	18.3 fl oz/A	18.3 fl oz/A	
0.78 Fluid oz/1000 Lin ft =	11.4 fl oz/A	13.7 fl oz/A				
0.83 Fluid oz/1000 Lin ft =	12.1 fl oz/A	14.6 fl oz/A				
1.05 Fluid oz/1000 Lin ft =	15.2 fl oz/A	18.3 fl oz/A				
1.57 Fluid oz/1000 Lin ft =	22.8 fl oz/A	27.4 fl oz/A				

## VEGETATIVE FILTER STRIPS

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

Only apply products containing bifenthrin onto fields where a maintained vegetative filter strip of **at least 25 feet** exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 25 feet may be reduced or removed under the following conditions:

- For Western irrigated agriculture, a maintained vegetative filter strip of at least 10 feet wide is required. Western irrigated agriculture is defined as irrigated farmland in the following states:
  - WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).
  - For Western irrigated agriculture, if a sediment control basin is present, a vegetative filter strip is not required.
- In all other areas, a vegetative filter strip with a minimum width of 25 feet is required, unless the following conditions are met. The vegetative filter strip requirement may be reduced from 25 feet to 15 feet if at least one of the following applies:
  - The area of application is considered prime farmland (as defined in 7 CFR § 657.5)
  - Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
  - A functional terrace system is maintained on the area of application.
  - Water and sediment control basins for the area of application are functional and maintained.
  - The area of application is less than or equal to 10 acres.

For further guidance on vegetated filter strips, refer to the following publication for information on constructing and maintaining effective buffers: Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services.

<https://www.regulations.gov/document?D=EPA-HQ-OPP-2008-0331-0175>

## 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.

## Maximum Allowable F4120-2 Use per Acre per Year

Refer to the individual crop sections for maximum allowable F4120-2 usage per acre per year. The maximum allowable use of the bifenthrin active ingredient must include all registered use patterns including at-plant, soil applied and foliar applications of all bifenthrin containing products for a 12-month period. The 12-month period is to begin upon the initial application to the acre.

## BUFFER ZONES TO WATER BODIES

### Ground Application

- Do not apply within 25 feet of aquatic habitats (such as, but not limited to lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

In New York State, this product may not be applied within 100 feet (using ground equipment) of coastal marshes or streams that drain into coastal marshes.

## CROP USES

### CORN

Field Corn, Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed

#### At-Plant

PEST/DISEASE	USE RATES		DIRECTIONS
	Fluid oz/1000 Linear ft. <sup>1</sup>	Pound bifenthrin/acre	
Corn rootworm larvae (Northern, Southern and Western) Asiatic garden beetle	0.52 – 1.05	0.1 - 0.2	Apply in-furrow with the seed. F4120-2 must be applied with a 3RIVE 3D system.
Wireworm, Grape <i>Colaspis</i> , Grubs, Seedcorn maggot, Root aphids, Army cutworm, Cutworm species, True armyworm, Armyworm species, Stalkborer, Seed corn beetle, Sugarcane beetle <sup>2</sup> Suppression of "Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , or <i>Phytophthora</i>	0.21 – 1.05	0.04 - 0.2	Heavy Corn Rootworm Pressure Management Program: In areas where large corn rootworm populations are present, use a multi-approach system 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 year, then utilize a maximum dosage seed treatment program or genetically modified corn rootworm resistant hybrid in addition to F4120-2.

<sup>1</sup>Based on 30" row spacing. See rate table on page [ "4"] for amount of F4120-2 required per acre for various crop row spacings.

<sup>2</sup>Use highest labeled rate for disease management however, under moderate to severe disease pressure, or when environmental conditions are conducive to rapid disease development, mix F4120-2 with other fungicides labeled for this use with the 3RIVE 3D System.

#### Corn Restrictions:

- Do not apply more than 0.2 pound bifenthrin ai/A/year as an at-plant application.
- For field corn:** Do not apply more than 0.3 pound bifenthrin ai/A total per year, including PPI, at-plant, PRE, and foliar applications of F4120-2 and other bifenthrin containing products.
- For sweet corn:** Do not apply more than 0.2 pound bifenthrin ai/A total per year, including PPI, at-plant, PRE, and foliar applications of F4120-2 and other bifenthrin containing products.

## PEAS and BEANS, dried shelled, except soybean - Crop Subgroup 6C

Dried cultivars of Bean (*Lupinus* species): grain lupin, sweet lupin, white lupin, and white sweet lupin; Bean (*Phaseolus* species): field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean; Bean (*Vigna* species): 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 (hyacinth bean); lentil; Pea (*Pisum* species): field pea; pigeon pea

### At-Plant

PEST/DISEASE	USE RATES		DIRECTIONS
	Fluid oz/1000 Linear ft. <sup>1</sup>	Pound bifenthrin/acre	
Grape colaspis, Wireworm, Grubs, Root maggot, Army cutworm, Cutworm species, True armyworm, Armyworm species,  <sup>2</sup> Suppression of "Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , or <i>Phytophthora</i>	0.21 - 1.05	0.04 - 0.2	Apply in-furrow with the seed. F4120-2 must be applied with a 3RIVE 3D system.

<sup>1</sup>Based on 30" row spacing. See rate table on page [ "4" ] for amount of F4120-2 required per acre for various crop row spacings.

<sup>2</sup>Use highest labeled rate for disease management. However, under moderate to severe disease pressure, or when environmental conditions are conducive to rapid disease development, mix F4120-2 with other fungicides labeled for this use with the 3RIVE 3D System.

### Dried Beans and Peas Restrictions:

- Do not apply more than 0.2 pound bifenthrin ai/A/year as an at-plant application.
- **For dried peas:** Do not apply more than 0.2 pound bifenthrin ai/A total per year, including PPI, at-plant, PRE, and foliar applications of F4120-2 and other bifenthrin containing products.
- **For dried beans:** Do not apply more than 0.3 pound bifenthrin ai/A total per year, including PPI, at-plant, PRE, and foliar applications of F4120-2 and other bifenthrin containing products.

## SOYBEANS [\*\*]

### At Plant

PEST/DISEASE	USE RATES		DIRECTIONS
	Fluid oz/1000 Linear ft. <sup>1</sup>	Pound bifenthrin/acre	
Wireworm, Grape colaspis, Grubs, Root maggot, Seedcorn maggot, Army cutworm, Cutworm species, True armyworm, Armyworm species, Seed corn beetle,  <sup>2</sup> Suppression of "Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , or <i>Phytophthora</i>	0.21 - 1.05	0.04 - 0.2	Apply in-furrow with the seed. F4120-2 must be applied with a 3RIVE 3D system.

<sup>1</sup>Based on 30" row spacing. See rate table on page [ "4" ] for amount of F4120-2 required per acre for various crop row spacings.



<sup>2</sup>Use highest labeled rate for disease management. However, under moderate to severe disease pressure, or when environmental conditions are conducive to rapid disease development, mix F4120-2 with other fungicides labeled for this use with the 3RIVE 3D System.

**Soybean Restrictions:**

- Do not apply more than 0.2 pound bifenthrin ai/A/year as an at-plant application.
- Do not apply more than 0.2 pound bifenthrin ai/A total per year including PPI, at-plant, PRE, and foliar applications of F4120-2 and other bifenthrin containing products.

**[\*\* Not for use on Soybeans in California]**

**PEAS and BEANS, succulent shelled – Crop Subgroups 6A and 6B**

Pea (*Pisum* species): dwarf pea, edible-pod pea, English pea, garden pea, green pea, snow pea, sugar snap pea; pigeon pea; Bean (*Phaseolus* species): broad bean (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/1000 Linear ft. <sup>1</sup>	Pound bifenthrin/acre	
Wireworm Grape colaspis Grubs Root maggot Seedcorn maggot Army cutworm Cutworm species True armyworm Armyworm species  <sup>2</sup> Suppression of "Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , or <i>Phytophthora</i>	0.21 - 1.05	0.04 - 0.2	Apply in-furrow with the seed. F4120-2 must be applied with a 3RIVE 3D system.

<sup>1</sup>Based on 30" row spacing. See rate table on page [ "4" ] for amount of F4120-2 required per acre for various crop row spacings.

<sup>2</sup>Use highest labeled rate for disease management. However, under moderate to severe disease pressure, or when environmental conditions are conducive to rapid disease development, mix F4120-2 with other fungicides labeled for this use with the 3RIVE 3D System.

**Succulent Peas and Beans Restrictions:**

- Do not apply more than 0.2 pound bifenthrin ai/A/year as an at-plant application
- Do not apply more than 0.2 pound bifenthrin ai/A total per year including PPI, at-plant, PRE, and foliar applications of F4120-2 and other bifenthrin containing products.

## SUNFLOWER – Crop Subgroup 20B

Calendula, Castor Oil Plant, Chinese Tallowtree, Euphorbia, Evening Primrose, Jojoba, Niger Seed, Rose Hip, Safflower, Stokes Aster, Tallowwood, Tea Oil Plant, Vernonia, cultivars, varieties, and/or hybrids of these

### At-Plant

PEST/DISEASE	USE RATES		DIRECTIONS
	Fluid oz/1000 Linear ft. <sup>1</sup>	Pound bifenthrin/acre	
Wireworm Grape colaspis White grub species Seedcorn maggot Root aphids Army cutworm Cutworm species	0.21 – 1.05	0.04 - 0.2	Apply in-furrow with the seed. F4120-2 must be applied with a 3Rive 3D system.
<sup>2</sup> Suppression of “Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , or <i>Phytophthora</i>			

<sup>1</sup>Based on 30” row spacing. See rate table on page [ “4”] for amount of F4120-2 required per acre for various crop row spacings.

<sup>2</sup>Use highest labeled rate for disease management. However, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-2 with other fungicides for improved performance.

#### Sunflower Restrictions:

- Do not apply more than 0.2 lb ai/A (16.0 fl oz/A) per year as an at-plant application.
- Do not make more than 1 application per year.

## TUBEROUS and CORM VEGETABLES, Crop Subgroup 1C

Arracacha; arrowroot; Chinese artichoke; Jerusalem artichoke; edible canna; bitter and sweet cassava; chayote (root); chufa; dasheen (taro); ginger; leren; potato; sweet potato; tanier; turmeric; yam bean; true yam

### At-Plant

PEST/DISEASE	USE RATES		DIRECTIONS
	Fluid oz/1000 Linear ft. <sup>1</sup>	Pound bifenthrin/acre	
Wireworms Grape colaspis White grub Sweet potato flea beetle	0.78 – 1.57	0.15 - 0.3	Apply in-furrow with the seed piece. F4120- 2 must be applied with a 3RIVE 3D system.
<sup>2</sup> Suppression of “Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , or <i>Phytophthora</i>			

<sup>1</sup>Based on 30” row spacing. See rate table on page [ “4”] for amount of F4120-2 required per acre for various crop row spacings.

<sup>2</sup> Use highest labeled rate for disease management. However, under moderate to severe disease pressure, or when environmental conditions are conducive to rapid disease development, mix F4120-2 with other fungicides labeled for this use with the 3RIVE 3D System.

#### Tuberous and Corm Vegetables Restrictions:

- Do not apply more than 0.3 pound bifenthrin ai/A/year an at-plant application.
- Do not apply more than 0.5 pound bifenthrin ai/A total per year including PPI, at-plant, lay-by, and foliar applications of F4120-2 and other bifenthrin containing 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) at 1-800-424-9300. 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 of FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold 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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# RESTRICTED USE PESTICIDE

Due to toxicity to fish and aquatic organisms.

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

BIFENTHRIN	GROUP	3A	INSECTICIDE
B. AMYLOLIQUEFACIENS	GROUP	44	FUNGICIDE

## Supplemental Labeling

This supplemental label expires on December 31, 2024 and must not be used or distributed after this date.

# F4120-2

[ABN: ETHOS 3D Insecticide/Fungicide]

For At-Plant use on Sunflower

Liquid insecticide/Fungicide for use in a 3RIVE 3D system only. Do not apply by air.

EPA Reg. No. 279-3632

<b>Active Ingredient:</b>	<b>By Wt.</b>
Bifenthrin: *	15.67%
Bacillus amyloliquefaciens strain D747**	5.50%
<b>Other Ingredients:</b>	78.83%
	100.0%

\*Cis isomers 97% minimum, trans isomers 3% maximum

\*\* Contains a minimum of  $1.0 \times 10^{10}$  colony-forming units (cfu) per milliliter of product

This product contains 1.4 lbs. bifenthrin per gallon.

**ACCEPTED**

11/19/2021

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 279-3632

**KEEP OUT OF REACH OF CHILDREN**

**WARNING/AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

**DIRECTIONS FOR USE**

**IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.**

**ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND PRECAUTIONS ON THE EPA REGISTERED LABEL ARE TO BE FOLLOWED.**

This Supplemental labeling must be in the possession of the user at the time of pesticide application. Read the label affixed to the container for F4120-2 before applying. Use of F4120-2 according to this supplemental labeling is subject to the use precautions and limitations imposed by the label affixed to the container of F4120-2. Carefully follow all precautionary statements and application use directions.



FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104

**3RIVE 3D System Information:** F4120-2 must be applied with a 3RIVE 3D system. Refer to the 3RIVE 3D equipment and user manual for information on system operation and calibration.

### SUNFLOWER (Crop Subgroup 20B)

Calendula, Castor Oil Plant, Chinese Tallowtree, Euphorbia, Evening Primrose, Jojoba, Niger Seed, Rose Hip, Safflower, Stokes Aster, Tallowwood, Tea Oil Plant, Vernonia, cultivars, varieties, and/or hybrids of these

**At-Plant**

PEST/DISEASE	USE RATES		DIRECTIONS
	Fluid oz/1000 Linear ft. <sup>1</sup>	Pound bifenthrin/acre	
Wireworm Grape colaspis White grub species Seedcorn maggot Root aphids Army cutworm Cutworm species	0.21 – 1.05	0.04 - 0.2	Apply in-furrow with the seed. F4120-2 must be applied with a 3Rive 3D system.
<sup>2</sup> Suppression of "Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , or <i>Phytophthora</i>			
<b>At-Plant Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.2 lb ai/A (16.0 fl oz/A) per year as an at-plant application.</li> <li>Do not make more than 1 application per year.</li> </ul>			

<sup>1</sup> Based on 30" row spacing

<sup>2</sup> Use highest labeled rate for disease management; however, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, mix F4120-2 with other fungicides for improved performance.

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