



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

February 21, 2020

Jonathan A. Janis  
Global Regulatory Director  
AgroFresh, Inc.  
3 Spring House Innovation Park, Suite 100  
Lower Gwynedd, PA 19002

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment – Acceptable Revisions to the Directions for Use section to Add Approved Crops, Revise the Application Rate Tables, and to Revise the Precautionary Language.  
Product Name: AFxRD-038  
EPA Registration Number: 71297-6  
Application Date: 01/14/2020  
OPP Decision Number: 559582

Dear Mr. Janis:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or 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 (1) copy of the final printed labeling before you release this 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 your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the U.S. Environmental Protection Agency (EPA). If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the 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

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process. Therefore, should the EPA 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 Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Alex Horansky by phone at (703) 347-0128 or via email at [horansky.alex@epa.gov](mailto:horansky.alex@epa.gov).

Sincerely,



Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

[Text in brackets is optional]

**[AgroFresh]**

**AFxRD-038**

For treatment of Annual Seedlings:

**[BRASSICA LEAFY VEGETABLES (Crop Group 5):\*] Broccoli[\*]; Broccoli, Chinese[\*]; Broccoli raab[\*]; Brussels sprouts[\*]; Cabbage[\*]; Cabbage, Chinses (bok choy) [\*]; Cabbage, Chinese (napa) [\*]; Cabbage, Chinses mustard[\*]; Cauliflower[\*]; Cavalo broccoli[\*]; Collards[\*]; Kale; Kohlrabi[\*]; Mustard Greens[\*]; Mustard Spinach[\*]; Rape Greens[\*].**

**[CUCURBIT VEGETABLES (Crop Group 9): \*] Cantaloupe[\*]; Cucumber[\*]; Gherkin[\*]; Honeydew[\*]; Muskmelon[\*]; Summer Squash[\*].**

**[LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES) (Crop Group 4):\*] Amaranth (leafy amaranth, Chinese spinach, tampala) [\*]; Arugula[\*]; Cardoon[\*]; Celery[\*]; Celery, Chinese[\*]; Celtuce[\*]; Chrysanthemum, edible-leaved[\*]; Chrysanthemum, garland[\*]; Corn salad[\*]; Cress, garden[\*]; Cress, upland[\*]; Dandelion[\*]; Dock[\*]; Endive[\*]; Fennel, Florence[\*]; Lettuce, Head and Leaf[\*]; Orach[\*]; Parsley[\*]; Purslane, garden[\*]; Purslane, winter[\*]; Radicchio[\*]; Rhubarb[\*]; Spinach[\*]; Spinach, New Zealand[\*]; Spinach, vine[\*]; Swiss chard[\*].**

**[FRUITING VEGETABLE (EXCEPT CUCURBIT) (Crop Group 8): \*] Pepper [\*] (Bell and Nonbell)[\*]; Tomato**

For treatment of Perennial Seedlings [\*]

**Conifer Seedlings: DOUGLAS FIR, LOBLOLLY PINE, LOBLOLLY X PITCH PINE HYBRID, LONGLEAF PINE, SHORTLEAF PINE, SLASH PINE, SOUTHERN PINE, VIRGINIA PINE, WESTERN HEMLOCK**

**Dicot Perennial Seedlings: ALMOND, APPLE, CHERRY, GRAPE, GRAPEFRUIT, LEMON, NECTARINE, PEACH, PEAR, PECAN, PLUM, ORANGE, WALNUT**

[\* Not for use in California]

Protects [fruit,][vegetable,][agronomic crops][ and][ seedlings] from the various effects of ethylene.

[\* Not for use in California]

[Alternate Brand Name: Harvista® Technology, Harvista WP, LandSpring® TM WP]

<b>ACTIVE INGREDIENT:</b>	<b>% By WT.</b>
1-Methylcyclopropene.....	3.8%
<b>OTHER INGREDIENTS:</b> .....	<b>96.2%</b>
<b>TOTAL:</b> .....	<b>100.0%</b>

Produced by: AgroFresh Inc.  
 510-530 Walnut Street, Suite 1350  
 Philadelphia PA 19106 USA  
 Tel: 866-206-1001

**NOTICE:** Before using this product, read the entire Precautionary Statements, Conditions of Sale and Warranty, Directions for Use, Use Restrictions and Storage and Disposal Instructions. If the Conditions of Sale and Warranty are not acceptable, return the product unused within thirty days of purchase to the place of purchase.

**KEEP OUT OF REACH OF CHILDREN  
 CAUTION / PRECAUCION**

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[front][back][side][inside] panel for First Aid Instructions and [Leaflet][Booklet] for complete Precautionary Statements and Directions for Use.]

<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>▪ Take off contaminated clothing.</li> <li>▪ Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>▪ Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>▪ Move person to fresh air.</li> <li>▪ If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>▪ Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>▪ Call a poison control center or doctor immediately for treatment advice.</li> <li>▪ Have person sip a glass of water for 15-20 minutes.</li> <li>▪ Call a poison control center or doctor for treatment advice.</li> </ul>
<b>POISON CONTROL CENTER</b>	
<b>1-800-222-1222</b>	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. For general information on product use, etc., call the National Pesticides Information Center at 1-800-858-7378. For emergencies, call the poison control center 1-800-222-1222.</p>	

**EPA Reg. No. 71297-6**  
**EPA Est. No.**

2998-3/20180224

**Net Contents:**

Water Soluble Pouch Sizes	
0.25 oz	7.1 grams
0.5 oz	14.2 grams
1 oz	28.4 grams
2 oz	56.7 grams
3.8 oz	(108 grams)
9.4 oz	(266 grams)
18.8 oz	(533 grams)
37.6 oz	(1066 grams)
56.4 oz	(1599grams)
112.7oz	(3194 grams)]

Plastic Container Sizes			
0.25 oz	7.1 grams	17 lbs	( 8 kg)
0.5 oz	14.2 grams	35 lbs	(16 kg)
1 oz	28.4 grams	53 lbs	(24 kg)
2 oz	56.7 grams	70 lbs	(32 kg)
4 oz	113 grams	88 lbs	(40 kg)
8 oz	227 grams	106 lbs	(48 kg)
17.6 oz	(0.5 kg)	110 lbs	(50 kg)
35 oz	( 1 kg)	141 lbs	(64 kg)
70 oz	( 2 kg)	159 lbs	(72 kg)]
175 oz	( 5 kg)		

[Lot No.: <on package>]

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to Supplemental Labeling entitled AGRICULTURAL USE REQUIREMENTS in the DIRECTIONS FOR USE section of the labeling for information about this standard.

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION** Causes slight eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking chewing gum using tobacco or using the toilet. Remove contaminated clothing and wash before reuse. Avoid breathing vapor.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material
- Protective eyewear (such as goggles, safety glasses, or face shield)

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 or other absorbent materials that have been fogged or heavily contaminated with the concentrated product. Do not reuse them.

#### **ENGINEERING CONTROLS STATEMENTS**

When handlers use closed systems or enclosed cabs in a manner that meets 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. Users should remove clothing / PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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**

**For terrestrial use:** Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. 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.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Workers 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 4 hours** unless wearing the appropriate PPE. For plant houses, do not enter or allow worker entry into treated areas prior to venting of the volatile active ingredient from the treatment area unless wearing the appropriate PPE. Ventilation shall continue until after **two (2) hours** of ventilation using fans or other mechanical systems or **four (4) hours** of ventilation using vents, windows or other passive ventilation.

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:

- Long -sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear (such as goggles, safety glasses, or face shield)

**Read the entire label before using this product.**

### APPLICATION INSTRUCTIONS

**AFxRD-038** is packaged in a water-soluble pouch inside a foil package. Once the foil package is opened, the entire contents of the water-soluble pouch must be used. **AFxRD-038** is also packaged in a plastic container. Open the container with your body upwind. If exposed to water, the formulation will begin to release 1-MCP gas. **In poorly vented systems, this gas may temporarily reach flammable levels in the headspace. The headspace must not come in contact with an ignition source.**

**Rate, time and mode of application:** Refer to instructions in crop tables.

**Adjuvants:** See Use of Adjuvants section for the adjuvants and rates.

**Plant Safety:** This product has been tested on numerous plant varieties with no phytotoxic effects. However, since this product has not been tested on all plant varieties or in combination with all available adjuvants or tank mixes, the manufacturer recommends testing on a small number of plants to check for adverse plant effects before applying on a larger number of plants. Under certain environmental conditions, the use of spray adjuvants can result in transient crop response.

**Incompatibility:** Do not use with products containing copper.

## For treatment of APPLES, PEARS, KIWIFRUIT, WALNUTS

- Do NOT exceed TEN (10) minutes of AGITATION after product is added to spray tank.
- This product MUST be used with an ADJUVANT. See Use of Adjuvants Section below.
- Do NOT allow product to contact any COPPER.

CROP	Application Timing	RATE oz/acre	Restrictions
Apple	3-7 Days Before Anticipated Harvest (Fruit Ripening)	37.6 to 112.7 (1.43 to 4.28 oz ai/acre)	Do not apply more than 112.7 oz /acre per crop. Allow a minimum of 3 days between treatment and harvest
Pear	7 Days Before Anticipated Harvest (Fruit Ripening)		
Kiwifruit	3-7 Days Before Anticipated Harvest (Fruit Ripening)	9.4 to 37.6 (0.36 to 1.43 oz ai/acre)	Do not apply more than 37.6 oz/acre per crop. Allow a minimum of 3 days between treatment and harvest
Walnut	At flowering, when 10-30% Flowers are receptive to pollen	18.8 to 37.6 (0.71 to 1.43 oz ai/acre)	Do not apply more than 37.6 oz/acre per crop.

**APPLES: AFxRD-038** delays fruit maturation, which allows for a delayed harvest period of 7 to 14 days. Depending on the cultivar, orchard conditions, and grower objectives, one or more of the following benefits may be provided by this delay: improved harvest management, reduction of preharvest fruit drop, additional time for color and size development, maintenance of fruit firmness, delayed starch hydrolysis, delayed onset and incidence of watercore, and enhanced storage potential.

**PEARS: AFxRD-038** provides one or more of the following benefits depending on the cultivar and growing conditions: improved harvest management, reduction of preharvest fruit drop, increased fruit size and maintenance of fruit firmness.

**KIWIFRUIT:** Depending on the cultivar, orchard conditions, and grower objectives, one or more of the following benefits may be provided by **AFxRD-038**: improved harvest management, increased fruit size, maintenance of fruit firmness before harvest, reduction of preharvest fruit drop, maintenance of fruit quality, and enhanced storage potential.

**WALNUTS:** Depending on cultivar, orchard conditions, and grower objectives, the following benefit may be provided by **AFxRD-038**: reduction in pistillate flower abortion (PFA) during pollination resulting in improved harvest.

### Mixing Instructions

1. Fill the tank with approximately 2/3 of required water volume.
2. Measure the proper (See Use of Adjuvants below) volume of spray oil and surfactant for the total spraying volume. See Use of Adjuvants section below.
3. Add spray oil ONLY to the tank with agitator running. Do not add surfactant at this time to avoid foaming. The spray oil must emulsify and spray solution for application must look milky white before adding **AFxRD-038**.
4. The enclosed inner pouches containing **AFxRD-038** are water-soluble. Do not allow water soluble pouch to become wet prior to adding to the spray tank. Do not handle with wet hands. After opening the outer foil package, drop the unopened inner water-soluble pouch into the spray tank. Multiple water-soluble pouches may be required as directed in Use Rate Table above. The entire water-soluble pouch will dissolve in the water. Alternatively, measure the required amount of powder as directed in the Use Rate Table above.
5. Fill the spray tank to final required water volume and continue running the agitation system for 10 minutes after adding **AFxRD-038** water soluble pouches (or powder), DO NOT EXCEED 10 MINUTES OF AGITATION. Add the surfactant in the last few minutes of agitation.
6. Do not use agitator during spraying.
7. Initiate spray application as soon as possible after step 5.

### Use of Adjuvants

**AFxRD-038** must be used with a spray oil adjuvant. Use a summer spray oil at a concentration of 1.0% (v/v) based on the volume of the spray solution plus an organosilicone surfactant at 0.05% v/v. To reduce foaming, minimize agitation and if necessary, add a defoamer.

### **Spray Volume**

Apply **AFxRD-038** in a sufficient amount of water to ensure good coverage of the tree canopy. Product efficacy requires that fruits and foliage receive uniform spray coverage. Use calibrated spray equipment to ensure uniform coverage of leaves and fruit. Adjust water volumes based on tree size and spacing. In most cases, use a minimum of 200 gallons per acre or the equivalent of a dilute spray. Use larger droplets of 300 microns for better spray coverage.

### **Spray Nozzle Requirements**

Use flat-fan nozzles. Select nozzles and pressure combinations which deliver coarse (250-375 um) spray droplets.

### **Important Considerations**

- Apply **AFxRD-038** under slow drying conditions, e.g. early in the morning or at night, in order to ensure adequate absorption.
- Do not make applications during the day or early evening when fruit is still hot.
- Do not apply when temperatures exceed 90 degrees.
- Do not use overhead cooling or irrigation equipment for at least 2 hours following application.
- Do not apply if rain is expected within 1 hour of application.
- Combination effects and potential interactions between **AFxRD-038** and products containing naphthaleneacetic acid (NAA) or ethephon have not been thoroughly evaluated. Use of these products on crops previously treated with **AFxRD-038** may reduce the benefits provided by **AFxRD-038** at harvest or after storage.
- Do not apply in winds exceeding 10mph
- **AFxRD-038** has a 3 day preharvest interval (PHI) for apples, pears, kiwifruit and walnuts.



**For treatment of TOMATOES and PEPPERS**

- Do NOT exceed TEN (10) minutes of AGITATION after product is added to spray tank.
- Do NOT allow product to contact any COPPER.

Crop	Application Timing	Rate	Restrictions
Tomato, Fresh Market and Processed	<u>From Seedling through Bloom Timing</u> Apply anytime from seedling through the bloom period. A second application may follow no sooner than 4-7 days after 1 <sup>st</sup> application.	3.8 to 9.4 oz/acre	Do not apply more than 18.8 oz/acre per crop.
Tomato, Fresh Market and Market	<u>Before Harvest Timing</u> Apply 28 days before harvest or as fruit begins to color and apply 4 to 7 days after the first application.	equivalent to  0.25 to 0.6 oz/1/16 acre*	Allow a minimum of one day between treatment and harvest.
Peppers	<u>From Seedling to Bloom Timing</u> Apply anytime from seedling through the bloom period. A second application may follow no sooner than 4-7 days after 1 <sup>st</sup> application.		

\*1/16 acre equals 2725 square feet

**PROCESSING TOMATOES:** When applied during vegetative through bloom periods, AFxRD-038 helps decrease stress induced growth reduction and flower abortion caused by excessive heat, cold, or other stress. Before harvest applications may delay fruit maturation which can allow harvest delay from 4-8 days. Depending on the cultivar, field conditions, production management, and grower objectives, one or more of the following benefits may be associated with this delay: improved harvest management, reduction of preharvest fruit drop, increased fruit size, additional time for color development, improved fruit quality (e.g., reduced incidence and/or severity of over mature fruit), and higher brix yield.

**FRESH MARKET TOMATOES:** When applied during vegetative through bloom periods, AFxRD-038 helps decrease stress induced growth reduction and flower abortion caused by excessive heat, cold, or other stress. Before harvest applications may delay fruit maturation which can allow harvest delay from 4-8 days. Depending on the cultivar, field conditions, production management, and grower objectives, one or more of the following benefits may be associated with this delay: improved harvest management, reduction of preharvest fruit drop, increased fruit size, and more fruit in the mature green stage.

**PEPPERS:** When applied during vegetative through bloom periods, AFxRD-038 helps decrease stress induced growth reduction and flower abortion caused by excessive heat, cold, or other stress.

**Mixing Instructions:**

1. Fill the tank of application equipment with the required water volume.
2. Add AFxRD-038 to the tank:
  - Water Soluble Pouches: The enclosed inner pouches containing AFxRD-038 are water-soluble. Do not allow water soluble pouch to become wet prior to adding to the spray tank. Do not handle with wet hands. After opening the outer foil package, drop the unopened inner water-soluble pouch into the spray tank. Multiple water-soluble pouches may be required as directed in Use Rate Table above. Entire water-soluble pouch will dissolve in water.
  - Powder: From the above Use Rate Table, determine the required amount of powder. Add to the tank.
3. Run the agitation system until the powder is thoroughly dissolved. DO NOT EXCEED 10 MINUTES OF AGITATION.
4. Do not use agitator during spraying.

5. Initiate spray application as soon as possible after step 3 and no later than 60 minutes after preparation of tank mixture.

### **Spray Volume**

Apply AFxRD-038 in a sufficient amount of water to ensure good coverage in the crop canopy. Product efficacy requires that the foliage and flower trusses receive uniform spray coverage. Use calibrated spray equipment to ensure uniform coverage of leaves and flower trusses. In most cases, use a minimum of 40 gallons per acre.

### **Spray Nozzle Requirements**

Required droplet size is 250-400µm. For best results, do not use droplets smaller than 250µm.

### **Important Considerations**

- For best results, apply under slow drying conditions, e.g. early in the morning or at night, in order to ensure adequate absorption.
- Do not make applications during the day when relative humidity is lower and temperatures higher.
- Do not apply when temperatures exceed 90 degrees.
- Do not apply if rain or overhead irrigation is expected within 1 hour of application.
- Do not apply in winds exceeding 10mph.
- AFxRD-038 has a 1 day preharvest interval (PHI) for all tomatoes and peppers.
- Handle AFxRD-038 in a well-ventilated area.

**For treatment of CORN, SOYBEAN, COTTON, SUNFLOWER, WHEAT, RICE**

- Do NOT exceed TEN (10) minutes of AGITATION after product is added to spray tank.
- This product MUST be used with an ADJUVANT. See Use of Adjuvants section below.

Crop	Application Timing	Rate oz/acre	Restrictions
<b>Corn - Field, pop, sweet (includes seed production and forage or silage production)</b>	Apply to an actively growing corn crop between V5 and R2.	3.8 to 9.4 (0.14 to 0.36 oz ai/acre)	Do not apply more than 18.8 oz/acre per crop  Allow a minimum of 14 days between treatment and harvest.
<b>Cotton</b>	Apply to an actively growing cotton crop between Pin-head Square (PHS) stage and 14 days after first bloom (Mid Bloom stage). A 2 <sup>nd</sup> application may be required 14 days following the 1 <sup>st</sup> application.		
<b>Rice</b>	Apply to an actively growing rice crop between panicle differentiation and grain-fill milk stage.		
<b>Soybean</b>	Apply to an actively growing soybean crop between early flower (V6/R1 stage) and R5 stage.		
<b>Sunflower</b>	Apply to an actively growing sunflower crop between 7-leaf (V7 stage) and flowering (R6 stage).		
<b>Wheat</b>	Apply to an actively growing wheat crop between flag-leaf (Feekes 9) and beginning grain fill (Feekes 10.55).		

**CORN:** Under conditions of environmental stress, **AFxRD-038** provides enhanced, heat and drought tolerance and extends leaf life which may produce one or more of the following benefits: increased kernel weight, increased kernel number and increased yield.

**SOYBEAN:** Under conditions of environmental stress, **AFxRD-038** provides enhanced heat and drought tolerance and extends leaf life which may produce one or more of the following benefits including: reduced flower abortion, reduced pod abortion, increased seed count and increased yield.

**COTTON:** Under conditions of environmental stress, **AFxRD-038** provides enhanced heat and drought tolerance and extends leaf life which may produce one or more of the following benefits including: reduced flower abortion, reduced small boll abortion, and increased yield.

**SUNFLOWER:** Under conditions of environmental stress, **AFxRD-038** provides enhanced heat and drought tolerance which may produce one or more of the following benefits including: increased seed number and increased yield.

**WHEAT, RICE:** Under conditions of environmental stress, **AFxRD-038** provides enhanced heat and drought tolerance which may produce one or more of the following benefits including increased seed number and increased yield.

**Mixing Instructions:**

1. Fill the tank of application equipment with approximately 2/3 of required water volume.
2. Measure the volume of spray adjuvant for the total spraying volume. See Use of Adjuvants section below.
3. Add spray adjuvant to the tank with agitator running. Minimize agitation and add a defoamer if

necessary, to reduce foaming.

4. The enclosed inner pouches containing **AFxRD-038** are water-soluble. Do not allow water soluble pouch to become wet prior to adding to the spray tank. Do not handle with wet hands. After opening the outer foil package, drop the unopened inner water-soluble pouch into the spray tank, multiple water soluble pouches may be required as directed in the Use Rate table above. Entire water-soluble pouch will dissolve in water. Alternatively, measure the required amount of powder as directed in the Use Rate Table above.

5. Fill the spray tank to final required water volume and continue running the agitation system for 10 minutes after adding the **AFxRD-038** water soluble pouches (or powder), **DO NOT EXCEED 10 MINUTES OF AGITATION.**

6. Do not use agitator during spraying.

7. Initiate spray application as soon as possible after step 5 and no later than 60 minutes after preparation of tank mixture.

#### **Use of Adjuvants**

**AFxRD-038** must be used with an adjuvant such as spray oil and/or an organo-silicone surfactant at the recommended label rate. To reduce foaming, minimize agitation and add a defoamer.

#### **Spray Volume**

Apply **AFxRD-038** in a sufficient amount of water to ensure good coverage in the crop canopy. Product efficacy requires that the foliage receive uniform spray coverage. Use calibrated spray equipment to ensure uniform coverage of leaves.

#### **Spray Nozzle Requirements**

Select nozzles and pressure combinations which deliver coarse (250-375 um) spray droplets.

#### **Important Considerations**

- Use sufficient spray volume to achieve thorough coverage of foliage, and blooms without unnecessary run-off.
- For best results, apply under slow drying conditions, e.g. early in the morning, in order to ensure adequate absorption.
- Do not apply if rain or overhead irrigation is expected within 1 hour of application
- Do not apply in winds exceeding 10mph.
- Avoid applications during the day when relative humidity is lower and temperatures are higher.
- Avoid application when temperatures exceed 90°F.
- Combination effects and potential interactions with other products have not been thoroughly evaluated.
- **AFxRD-038** has a preharvest interval (PHI) of 14 days for corn, cotton, rice, soybean, sunflower, and wheat.

**For treatment of SEEDLINGS:**

**Annual Seedlings**

[BRASSICA LEAFY VEGETABLES (Crop Group 5):\*] Broccoli[\*]; Broccoli, Chinese[\*]; Broccoli raab[\*]; Brussels sprouts[\*]; Cabbage[\*]; Cabbage, Chinese (bok choy) [\*]; Cabbage, Chinese (napa) [\*]; Cabbage, Chinese mustard[\*]; Cauliflower[\*]; Cavalo broccoli[\*]; Collards[\*]; Kale; Kohlrabi[\*]; Mustard Greens[\*]; Mustard Spinach[\*]; Rape Greens[\*].

[CUCUBITS VEGETABLES (EXCEPT BRASSICA) (Crop Group 9):\*] Cantaloupe[\*]; Cucumber[\*]; Gherkin[\*]; Honeydew[\*]; Muskmelon[\*]; Summer Squash[\*].

[LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES) (Crop Group 4):\*] Amaranth (leafy amaranth, Chinese spinach, tampala) [\*]; Arugula[\*]; Cardoon[\*]; Celery[\*]; Celery, Chinese[\*]; Celtuce[\*]; Chrysanthemum, edible-leaved[\*]; Chrysanthemum, garland[\*]; Corn salad[\*]; Cress, garden[\*]; Cress, upland[\*]; Dandelion[\*]; Dock[\*]; Endive[\*]; Fennel, Florence[\*]; Lettuce, Head and Leaf[\*]; Orach[\*]; Parsley[\*]; Purslane, garden[\*]; Purslane, winter[\*]; Radicchio[\*]; Rhubarb[\*]; Spinach[\*]; Spinach, New Zealand[\*]; Spinach, vine[\*]; Swiss chard[\*].

[FRUITING VEGETABLE (EXCEPT CUCUBITS) (Crop Group 8): \*] Pepper [\*] (Bell and Non-bell) [\*]; Tomato

[\* Not for use in California]

USE INSTRUCTIONS		
SEEDLING CROPS FOR TRANSPLANT	SEEDLINGS	
Annual Crops	Application Timing	RATE oz/acre
[BRASSICA LEAFY VEGETABLES (Crop Group 5):*] Broccoli[*]; Broccoli, Chinese[*]; Broccoli raab[*]; Brussels sprouts[*]; Cabbage[*]; Cabbage, Chinese (bok choy) [*]; Cabbage, Chinese (napa) [*]; Cabbage, Chinese mustard[*]; Cauliflower[*]; Cavalo broccoli[*]; Collards[*]; Kale; Kohlrabi[*]; Mustard Greens[*]; Mustard Spinach[*]; Rape Greens[*]. [CUCUBITS VEGETABLES (EXCEPT BRASSICA) (Crop Group 9):*] Cantaloupe[*]; Cucumber[*]; Gherkin[*]; Honeydew[*]; Muskmelon[*]; Summer Squash[*]. [LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES) (Crop Group 4):*] Amaranth (leafy amaranth, Chinese spinach, tampala) [*]; Arugula[*]; Cardoon[*]; Celery[*]; Celery, Chinese[*]; Celtuce[*]; Chrysanthemum, edible-leaved[*]; Chrysanthemum, garland[*]; Corn salad[*]; Cress, garden[*]; Cress, upland[*]; Dandelion[*]; Dock[*]; Endive[*]; Fennel, Florence[*]; Lettuce, Head and Leaf[*]; Orach[*]; Parsley[*]; Purslane, garden[*]; Purslane, winter[*]; Radicchio[*]; Rhubarb[*]; Spinach[*]; Spinach, New Zealand[*]; Spinach, vine[*]; Swiss chard[*]. FRUITING VEGETABLES (Crop Group 8): * [FRUITING VEGETABLE (EXCEPT CUCUBITS) (Crop Group 8): *] Pepper[*] (Bell and Nonbell) [*]; Tomato	Apply 1-5 days before transplanting. If transplanting is delayed more than 5 days, make a second application	3.8 to 9.4 (0.14 to 0.36 oz ai/acre)
Restrictions: <ul style="list-style-type: none"> <li>Do NOT apply more than 18.8 oz/acre per crop.</li> <li>Do NOT exceed THREE (3) minutes of AGITATION after product is added to spray tank.</li> <li>Do NOT allow product to contact any COPPER.</li> </ul> [* Not for use in California]		

**ANNUAL CROP SEEDLINGS:** When applied to seedlings 1-5 days before transplanting, **AFxRD-038** helps decrease transplant shock enabling plants to more rapidly establish and grow. Observed benefits include increased crop biomass due to better root and shoot development when plants are subjected to stress in the weeks following transplantation.

### Perennial Seedlings [\*]

**Conifer Seedlings:** DOUGLAS FIR, LOBLOLLY PINE, LOBLOLLY X PITCH PINE HYBRID, LONGLEAF PINE, SHORTLEAF PINE, SLASH PINE, SOUTHERN PINE, VIRGINIA PINE, WESTERN HEMLOCK

**Dicot Perennial Seedlings:** ALMOND, APPLE, CHERRY, GRAPE, GRAPEFRUIT, LEMON, NECTARINE, PEACH, PEAR, PECAN, PLUM, ORANGE, WALNUT

USE INSTRUCTIONS				
SEEDLING CROPS FOR TRANSPLANT	SEEDLINGS		BAREROOT PERENNIAL SEEDLINGS	
Perennial Crops	Application Timing	RATE oz/acre	Application Timing	RATE oz/gallon
<b>Conifer seedlings [*]:</b> Douglas Fir, Loblolly Pine, Loblolly x Pitch Hybrid, Longleaf Pine, Shortleaf Pine, Slash Pine, Southern Pine, Virginia Pine, Western Hemlock <b>Dicot seedlings:</b> almond, apple, cherry, grape, grapefruit, lemon, nectarine, orange, peach, pear, pecan, plum, walnut	Apply 1-5 days before transplanting. If transplanting is delayed more than 5 days, make a second application	3.8 to 9.4 (0.14 to 0.36 oz ai/acre)	Apply to roots just prior to packaging for storage	0.25 oz/ 75 gallons
Restrictions: <ul style="list-style-type: none"><li>• Do NOT apply more than 18.8 oz/acre per crop.</li><li>• Do NOT exceed THREE (3) minutes of AGITATION after product is added to spray tank.</li><li>• Do NOT allow product to contact any COPPER.</li></ul>				
[* Not for use in California]				

**PERENNIAL CROP SEEDLINGS [\*]:** When applied to containerized / potted perennial seedlings 1-5 days at the nursery before transportation to the field or before packaging and storage or applied to perennial seedlings 1-5 days at the nursery before lifting and storage, **AFxRD-038** helps decrease both seedling mortality and transplant shock enabling plants to more rapidly establish and grow. Observed benefits include higher seedling survival rates and increased crop biomass due to better root and shoot development when plants are subjected to stress in the weeks following transplantation.

When applied to bareroot perennial seedling before packaging and storage. **AFxRD-038** helps decrease both seedling mortality and transplant shock enabling plants to more rapidly establish and grow. Observed benefits include higher seedling survival rates and increased crop biomass due to better root and shoot development when plants are subjected to stress in the weeks following transplantation.

#### Mixing Instructions for Sprayer Tanks:

1. Fill the tank of application equipment with required water volume.
2. Add the required **AFxRD-038** to the tank as directed in the Use Rate Table above.
3. Continue running the agitation system for 3 minutes after adding the **AFxRD-038**.  
DO NOT EXCEED 3 MINUTES OF AGITATION.
4. Do not use agitator during spraying.
5. Initiate spray application as soon as possible after step 3 and no later than 15 minutes after preparation of tank mixture.

#### Mixing Instructions for Dosatron or Other injection systems:

1. Fill the tank of application equipment with required water volume.
2. Add the required **AFxRD-038** to the tank as directed in the Use Rate Table above.
3. Gently stir the spray solution for up to 3 minutes.
4. Initiate spray application as soon as possible after step 3 and no later than 15 minutes after preparation of spray mixture.

#### Spray Volume

Use calibrated equipment to apply **AFxRD-038** in a sufficient amount of water to ensure good drenching of the seedlings. Product efficacy requires that the foliage receive uniform spray coverage. Use a minimum spray volume of 40 gallons per acre.

#### **Spray Nozzle Requirements**

Required droplet size is 250-400µm. For best results, do not use droplets smaller than 250µm.

#### **Important Considerations**

- For best results, apply under slow drying conditions, e.g. early in the morning or at night, in order to ensure adequate absorption.
- The manufacturer recommends to not apply if rain or overhead irrigation is expected within 1 hour of application.
- The manufacturer recommends to not apply in winds exceeding 10mph.
- **AFxRD-038** has a 1 day preharvest interval (PHI)
- Handle **AFxRD-038** in a well-ventilated area.
- The manufacturer recommends applying AFxRD-038 alone on seedlings, without tank mixes or adjuvants.

## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in original packaging in a cool, dry place.

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

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Dispose of empty outer foil package in trash

For plastic container, triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

For containers greater than 50 lbs: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by the State and local ordinances.



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LIMITATION OF WARRANTY AND LIABILITY**

**BEFORE BUYING OR USING THIS PRODUCT**, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of AGROFRESH INC. or the seller is authorized to vary in any way.

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