



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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 19, 2016

James Yowell  
Consultant for FB Sciences, Inc.  
c/o Spring Trading Company  
203 Dogwood Trail  
Magnolia, TX 77354

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment –  
Amendment to Update Label More in Accordance with Other Products  
Product Name: Arcus FS  
EPA Registration Number: 84846-13  
Application Date: 5/16/16  
OPP Decision Number: 517774

Dear Mr. Yowell:

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 Chris Pfeifer of my team by phone at (703) 308-0031 or via email at [pfeifer.chris@epa.gov](mailto:pfeifer.chris@epa.gov).

Sincerely,

A handwritten signature in blue ink that reads "Andrew C. Bryceland". The signature is fluid and cursive, with the first name being the most prominent.

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

Enclosure

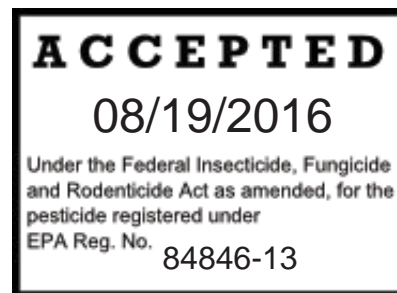
**FBSciences, Inc.**

**Arcus FS™**  
Plant Growth Regulator

For field or greenhouse use on vegetables, fruits, nuts, vine crops, field crops, ornamentals, and turf to stimulate root and shoot growth when used alone or in mixtures with other pesticide products.

**ACTIVE INGREDIENT:**

Complex polymeric polyhydroxy acids..... 00.90%  
OTHER INGREDIENTS ..... 99.10%  
TOTAL 100.00%



**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

<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.</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>HOTLINE NUMBER:</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Product Safety Hotline 1- 866-359-5667 day or night, for emergency medical treatment information.	

Net Contents: One Gallon/ 3.78 liters (8.45 lbs/3.84kg)

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EPA Est. No. 84846-CA-001

# Precautionary Statements

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Caution. Causes moderate eye irritation. Harmful if absorbed through skin. Do not get in eyes or on skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Wear appropriate personal protective equipment (PPE).

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes and socks.
- Waterproof gloves.
- Protective eyewear.

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

## USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing immediately if pesticide gets inside.
- 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 uses, 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 wash waters or rinsate.

## DIRECTIONS FOR USE

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. 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 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. 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
- Chemical-resistant gloves made of any waterproof material
- Shoes and socks
- Protective eyewear

## NON-AGRICULTURAL USE REQUIREMENTS

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

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

## GENERAL USE INFORMATION

Arcus FS is a broad-spectrum plant growth regulator for use on field or greenhouse crops, fruits, nuts, vines and ornamentals. Arcus FS may be applied in liquid sprays, with irrigation, or impregnated on fertilizer granules. Optimum growth effects are achieved when the product is applied on a regular scheduled application program.

Since all combinations or sequences of foliar pesticide and nutrient applications including surfactants and adjuvants have not been tested, before wide spread application, test a small area to be sprayed first to make certain that no phytotoxicity occurs.

Read the entire label before using Arcus FS. Consult your State Agricultural Experimental Station or Extension Service Specialist for additional information on application timing, rates and any additional requirements or restrictions.

## FOLIAR AND SOIL APPLICATION INSTRUCTIONS

Arcus FS is a plant growth regulator intended to improve germination and seedling development, stimulate root and shoot growth, increase chlorophyll content, improve plant ability to withstand stress, and increase yields when used alone or in mixtures with nutrients and other pesticide products on field crops, vegetables, fruits, nuts, vine crops, turf and ornamentals.

For all crops, apply Arcus FS at a rate of 0.6 to 2.4 fluid ounces per acre unless otherwise specified on this label. Refer to the Foliar and Soil Application Use Rates for Outdoor and Greenhouse Crops section of this label for specific soil and foliar application use rate and timing information.

Applications can begin prior to planting for soil applications and continue as long as plants are still in the vegetative stage. Foliar applications may begin when plants reach or surpass the 3-leaf stage of development. For best results, apply Arcus FS before leaf hardening.

Repeat applications no sooner than every 7 days. Arcus FS is effective for use in programs where repeated applications throughout the growing season are necessary. If not applied on a routine spray schedule, apply Arcus FS alone or in combination with appropriate fertilizers and pesticides.

**Specific Use Restrictions and Precautions:** Do not make foliar applications when conditions favor drift from target area or wind speed is greater than 10 mph. Spray equipment must be cleaned thoroughly before and after applications.

## MIXING INSTRUCTIONS

**For foliar applications,** be sure the sprayer is clean and not contaminated with other materials prior to use. When using an agitated spray tank fill tank 1/2 to 3/4 full with clean water and start agitation. Be certain that the agitation system is working properly. With the agitator running add the required amount of Arcus FS to the tank. If tank mixing with other materials, add them to the tank and continue agitation. Continue filling tank with the remainder of the water. Agitate until mixed thoroughly and avoid excessive foaming. Mix as needed. Do not store diluted material overnight.

**For applications to granular products, apply** Arcus FS to provide uniform coverage of all granules. In cases where the amount of fertilizer per acre is less than 100 pounds, apply Arcus FS to a small amount of fertilizer to ensure that it will not cause the fertilizer to cake.

## COMPATIBILITY

Arcus FS is compatible with most commonly used agricultural pesticides. If compatibility is in question, test the compatibility by using a jar test before mixing a whole tank. Dilute Arcus FS to its use rate and then with stirring add the other components in the appropriate amounts. If precipitation, gelation, or sedimentation occurs, do not use the combination of pesticides. Because of the wide variety of possible combinations that can be encountered, observe all precautions and limitations on the label of all products used in mixtures.

## SPRINKLER CHEMIGATION SYSTEM APPLICATION

Apply this product only through drip, microjet, lateral move, end tow, side (wheel) roll, hand move, solid set and center pivot irrigation systems. Do not apply this product through any other type of irrigation system.

Use standard tank agitation when mixing Arcus FS alone or with other pesticides. Fill the tank halfway with water, begin agitation and add Arcus FS, other tank mix pesticides or fertilizers and fill with water.

**Preparation of Injection Equipment:** Remove pesticide, scale residues and other foreign matter from the chemical tank and entire injection system. Flush with clean water.

Set the sprinkler system to deliver 0.1 to 0.3 inch of water per acre. Start the sprinkler system and uniformly inject the solution of Arcus FS into the irrigation water line. Inject the Arcus FS solution with a positive displacement pump into the main line before a right angle turn to ensure adequate mixing. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Crop injury or lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

### Requirements for Sprinkler and Drip (Trickle) Chemigation

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 back flow.

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 distribution 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.

When applying Arcus FS using microjet and drip irrigation systems avoid further irrigation after the treatment has been completed for 24 to 48 hours.

When applying Arcus FS using solid set, hand move and center pivot irrigation systems avoid further irrigation of the treated area until the foliage is dry to prevent washing the product from the crop.

When applying Arcus FS using a continuously moving system, such as lateral move, or side (wheel) roll system, inject this product-water mixture continuously, applying the labeled rate per acre for that crop.

When applying Arcus FS through stationary or non-continuous moving systems, inject the product-water mixture in the last 15-30 minutes of each set allowing sufficient time for all the required pesticide to be applied by all the sprinkler heads and applying the labeled rate per acre for that crop.

Apply Arcus FS continuously for the duration of the water application.

### **Requirements for Chemigation Systems Connected to Public Water Systems:**

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regular serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

### **Other General Requirements for Chemigation Systems**

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### **FOLIAR AND SOIL APPLICATION USE RATES FOR OUTDOOR AND GREENHOUSE CROPS**

**For all crops**, Arcus FS can be applied to the soil or to the foliage. Use rates range from 0.6 to 2.4 ounces per acre for soil and foliar applications depending upon the application method, product placement and timing. Refer to the foliar applications and Soil applications directions hereafter for use rate and timing information.

**Foliar applications:** Apply Arcus FS directly to the foliage of actively growing plants at a minimum rate of 1.2 ounces per acre in a minimum spray volume of 5 gallons per acre. Arcus FS can be applied with all nutrient products and pesticides, but provides best results when applied with nutrients.

**Soil applications** (including irrigation): Arcus FS works best when soil applications are made with fertilizer or nutrient products and can be applied with liquid or granular formulations. Rates will depend upon the formulation and placement of the product. Rates are as follows:

1. Impregnated on granules – apply Arcus FS at a rate of 1.6 to 2.4 ounces per acre.
2. Formulated with liquid fertilizer – apply Arcus FS at 1.0 to 1.6 ounces per acre when applied in furrow at planting. For banded, broadcast, side dress, or top dress applications, apply at 1.6 to 2.4 ounces per acre.
3. For all applications through an irrigation system, apply at 1.6 ounces per acre.

### **FOR CEREAL GRAINS, VEGETABLE CROPS, AND OTHER AGRONOMIC CROPS**

Apply a minimum rate of 1.2 ounces of Arcus FS in a minimum of 5 gallons finished spray per acre when applied as a foliar spray. For soil applications, a rate of 1.0 to 2.4 ounces per acre is recommended, depending upon the application method, product placement and timing.

**Specific Use Restrictions:** Do not apply more than 2.4 ounces per acre per application. Do not apply more than 4.8 ounces per acre per season. Do not make post-harvest applications. PHI: 0 days.

Cereal Grains, including:

Barley, Buckwheat, Corn (sweet and field), Millet, Oats, Popcorn, Rice, Rye, Sorghum, Triticale, Wheat, Wild rice

Cucurbit and Fruiting Vegetables, including:

Cucumber, Eggplant, Gherkin, Muskmelon, Okra, Pepper, Pumpkin, Squash, Tomato, Watermelon,

Leafy Vegetables, including:

Arugula, Cardoon Celery, Chinese Celery, Chervil, Cilantro, Endive, Fennel, Lettuce, Orach, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard

Brassica (Cole) Leafy Vegetables including:

Broccoli. Broccoli Raab. Brussel Sprouts. Cabbage. Chinese Cabbage (Boc Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Collards, Kale, Kohlrab, Mustard Greens, Mustard Spinach

Legume Vegetables, including:

Beans, Broad bean, Chickpea, Lentil, Peas, Soybean

Root, Tuber and Bulb Vegetables, including:

Beet (garden and sugar), Carrot, Cassava, Celeriac, Chayote, Chervil, Chicory, Garlic, Ginger, Ginseng, Horseradish, Leek, Onion, Parsley root, Potato, Radish, Rutabaga, Salsify, Shallot, Sweet potato, Turnip, Yam

Other Agronomic Crops, including:

Artichoke, Asparagus, Coffee, Cotton, Grass grown for seed, Hops, Industrial hemp, Jojoba, Papaya, Pistachio, Sesame, Sunflower, Tea, Mint, Spearmint

### ***FOR FRUIT, NUT, BERRY AND VINE CROPS***

Apply a minimum rate of 1.2 ounces of Arcus FS in a minimum of 25 gallons finished spray per acre when applied as a foliar spray. For soil applications, apply at a rate of 1.0 to 2.4 ounces per acre, depending upon the application method, product placement and timing.

**Specific Use Restrictions:** Do not apply more than 2.4 ounces per acre per application. PHI: 0 days.

Berries and Vine Crops, including:

Blackberry, Blueberry, Cranberry, Elderberry, Gooseberry, Grape, Huckleberry, Loganberry, Raspberry, Strawberry

Citrus, including:  
Grapefruit, Lemon, Lime, Mandarin, Orange, Pummelo, Tangerine

Nut Crop, including:

Almond, Beech nut, Brazil nut, Batternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory, Macadamia, Pecan, Pistachio, Walnut

Pome Fruit, including:

Apple, Crabapple, Loquat, Mayhaw, Pear, Quince

Stone Fruit, including:

Apricot, Cherry, Nectarine, Peach, Plum, Prune, Plumcot



### **FOR ORNAMENTAL CROPS**

*(including broadleaf shrubs and trees, flowering plants and bulbs, and foliage plants)*

apply a minimum rate of 1.2 ounces of Arcus FS in a minimum of 25 gallons finished spray per acre when applied as a foliar spray. For soil applications, apply at a rate of 1.0 to 2.4 ounces per acre, depending upon the application method, product placement and timing.

**Specific Use Restrictions:** Do not apply more than 2.4 ounces per acre per application. Do not apply more than 4.8 ounces per acre per season.

**IMPORTANT NOTE:** Plant sensitivities to Arcus FS have been found to be acceptable for plants listed on this label; however it is impossible to know sensitivities under all conditions and phytotoxicity may occur. Due to the large number of species and varieties of ornamentals and nursery plants, it is impossible to test every one for sensitivity to Arcus FS. Neither the manufacturer nor seller, endorses use upon species not listed on the label, nor has it been determined that Arcus FS can be safely used on ornamental or nursery plants not listed on this label. The user must determine if Arcus FS can be used safely prior to commercial use. In a small area, apply the listed rates to the plants in question, i.e. foliage, fruit, etc., and observe for 7-10 days for symptoms of phytotoxicity prior to commercial use. Do not apply foliar sprays to open blooms of Geranium, Marigold, Pansy, and Petunia.

**Broadleaf Shrubs and Trees including:**

Andromeda, Ash, Aspen, Azalea, Buckeye, Camellia, Cherry Laurel, Crabapple, Dogwood , Eucalyptus, Euonymus, Firethorn, Flowering almond, Flowering cherry, Flowering peach, Flowering plum, Flowering quince, Hawthorn, Holly, Laurel, Lilac, Magnolia, Maple, Oak, Poplar, Privet, Red-tip, Rhododendron ,Sequoia, Spirea, Sycamore, Viburnum, Walnut

**Flowering Plants and Bulbs**

African violet, Begonia, Carnation, Chrysanthemum, Crocus, Daffodil, Daisy, Geranium\*, Gladiolus, Hollyhock, Hydrangea, Iris, Lily, Marigold\*, Narcissus, Pansy\*, Petunia\*, Phlox, Rose, Statice, Zinnia

*\*NOTE: Do not apply foliar sprays of Arcus FS to open blooms of these species.*

**Foliage plants:**

Aglaonema, Artenesia , Boston fern, Dracaena, Dumbcane, Fatsia, Ficus, Leatherleaf fern, Lipstick plant, Ming aralias, Oyster plant, Pachysandra, Palm, Parlor palm, Peperomia, Philodendron, Prayer plant, Ruffle fern, Syngonium, Zebra plant

### STORAGE AND DISPOSAL

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

**Storage:** Keep pesticide in original container. Keep container tightly closed when not in use. Store product above 40°F. Do not store in aluminum, fiberglass, copper, brass, zinc, or galvanized containers. Protect from excessive heat. Store 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 Disposal:** Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. For containers less than five gallons triple rinse as follows: Empty remaining contents into application equipment or mix tank and drain for 10 seconds after flow begins to drip. Fill container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times. For containers greater than five gallons triple rinse as follows: Empty remaining contents into application equipment or mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip the container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand container on its end and tip 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 mix tank or store rinsate for later use or disposal. Repeat the procedure two more times. Then offer for recycling or reconditioning, or puncture and or dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities by burning. If burned, stay out of smoke.

### LIMITED WARRANTY AND DISCLAIMER

The directions for use of this product are believed to be adequate and must be followed carefully. The use of this product is beyond the control of the manufacturer, and, therefore, to the extent consistent with applicable law, no warranty, representation, or guarantee of any kind, expressed or implied, is made as to the effects of such use or any results obtained if not used in accordance with printed directions and established safe practice or if unusual or extraordinary weather conditions occur. To the extent consistent with applicable law, the buyer's exclusive remedy and manufacturer's or seller's exclusive liability in tort or otherwise, shall be limited, at the manufacturer's option, to replacement of, or the repayment of the purchase price for, the quantity of product with respect to which damages are claimed.

Batch Code/Lot Number: \_\_\_\_\_

**Manufactured by:**  
FBSciences, Inc.  
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Collierville, TN 38017  
United States  
901.221.1200

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