



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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

January 29, 2020

Fine Agrochemicals, Ltd.  
c/o Krista D. Coleman  
SciReg, Inc.  
12733 Director's Loop  
Woodbridge, VA 22192

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment – Acceptable  
Addition of Claims and Use Directions for Various Crops  
Product Name: FAL 436  
EPA Registration Number: 62097-49  
Application Date: 10/16/2019  
OPP Decision Number: 556703

Dear Ms. Coleman:

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 process. Therefore, should the EPA find or if it is brought to our attention that a website contains false

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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 Anna O'Neil by phone at (703) 347-8274 or via email at [oneil.anna@epa.gov](mailto:oneil.anna@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.

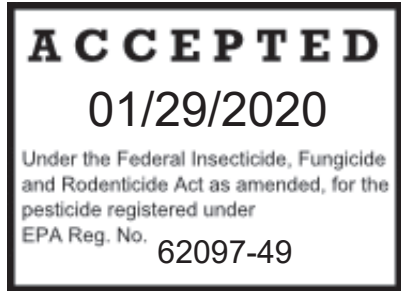
Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

# FAL 436

Plant Growth Regulator Solution

**Active Ingredient:** Gibberellic Acid (A<sub>3</sub>) ..... 12.96%  
**Other Ingredients:** ..... 87.04%  
**Total:** ..... 100.00%



FAL 436 contains 4 grams active ingredient per fluid ounce of formulated product.

**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.)

[See inside panel for additional Precautionary Statements.]

EPA Reg. No. 62097-49

EPA Est. No.

### NET CONTENTS:

Batch No:

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• 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>
IF SWALLOWED	<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 if able to swallow.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
IF ON SKIN OR CLOTHING	<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>
IF INHALED	<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>

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 Poison Control Hotline at 1-800-222-1222 for emergency medical treatment information 24 hours a day, seven days a week.

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**WARNING.** Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear such as goggles, face shield, or safety glasses. Harmful if swallowed, absorbed through skin, or inhaled. Avoid contact with skin and breathing spray mist. 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.

### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category C on an EPA chemical-resistance selection chart.

*Applicators and other handlers must wear:*

- Protective eyewear
- Coveralls worn over short-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves

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

### **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**

For terrestrial uses. 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 contaminate water when disposing of equipment wash waters or rinsate.

### **PHYSICAL AND CHEMICAL HAZARDS**

FOR CHEMICAL EMERGENCY: spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.

## **COMPATIBILITY**

Conduct a compatibility test when you plan to mix FAL 436 with other products. To determine the physical compatibility of FAL 436 with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to approximately one quart of water with agitation. Add dry formulations first, then flowables, and then emulsifiable concentrates last. After thorough mixing, allow this mixture to stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding products to the spray tank. Follow the more restrictive labeling requirements of any tank mix partner. Do not tank mix with products whose label prohibits tank mixing. Treat a small test plot if new combinations of products are being used for the first time.

## **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. Only protected handlers may be in the area during application. For any requirement specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product through any type of irrigation system.

## **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 the label about personal protective equipment (PPE) and restricted entry intervals. The requirements in this box only apply to uses of this product covered by the Worker Protection Standard.

Do not enter or allow entry into treated areas during the restricted entry interval (REI) of 24 hours unless wearing appropriate PPE.

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 worn over short-sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear
- Waterproof gloves

### **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. Do not enter treated areas without appropriate protective clothing until sprays have dried.

### **PRODUCT INFORMATION**

FAL 436 is a plant growth regulator solution for use on food and non-food crops to affect the growth characteristics of specified crops:

When used on table grapes, application of FAL 436 for 'Stretch' produces looser cluster forms, allows better air circulation to aid in the control of bunch rot, increases light penetration to aid in sugar development and reduces the cost of thinning. Application of FAL 436 for 'Thinning' (decreased berry set) reduces hand thinning costs and hastens maturity. Application of FAL 436 for 'Sizing' produces larger berries and clusters when used in conjunction with girdling and thinning techniques. FAL 436 may also be applied as a cluster dip or directed spray to berry clusters/bunches to increase berry size.

When used on grapefruit, application of FAL 436 reduces water loss during storage and can be used to manage harvest timing. When applied before color change, use of FAL 436 produces the greatest delay in rind aging and the firmest rind.

When used on lemons and limes, application of FAL 436 decreases rind yellowing/aging and the amount of small tree ripe fruit, thus allowing a more desirable production pattern relative to market demand. Application of FAL 436 is cumulative so that when applied for two years in succession, a larger difference in maturity and harvest pattern occurs.

On navel oranges, FAL 436 may be used to reduce rind disorders (e.g., rind staining, water spotting, sticky surface, puffy rind and pressure rupture), aging and to manage harvest timing.

When used on tangerine hybrids, application of FAL 436 increases fruit set and yields, and delays rind aging and peel strength in hybrids with pollination problems such as Minneola, Orlando, Robinson and Sunburst.

FAL 436 can be used to increase fruit set and yield in Clementine Mandarin.

FAL 436 may also be used for post-harvest applications on citrus. On lemons, FAL 436 can be used to reduce sour rot pathogen (*Geotrichum candidum*) infection and to delay rind senescence and color changes to extend storage life.

Other uses of FAL 436 include:

- Stimulates fruit growth on bananas when plant is stressed due to insect or disease pressure or adverse weather conditions.
- Improves fruit size and improves the uniformity of fruit harvest for greater harvest efficiency.
- Improves fruit set on blueberries when natural fruit set is poor due to reduced honeybee activity as a result of adverse weather conditions.
- Maintains and extends high fruit bearing and reduces the occurrence of 'blind' nodes on red tart cherries.
- Produces larger, brighter colored, and firmer sweet cherries. This treatment may delay color development and harvest. This delay in color and maturity may be especially evident in blonde varieties such as Rainier, Royal Ann, Stardust, etc.
- Use of multiple applications of FAL 436 on sweet cherries may result in a reduction in return bloom in the year following applications.
- An application of FAL 436 can be made to Tart cherry trees to maintain and extend high fruiting capacity by promoting spur formation and reducing the occurrence of "blind" nodes.
- Reduces the flowering and fruiting of non-bearing sweet and tart cherries and other stone fruit, minimizing the competitive effect of fruiting on tree development.
- Seasonal applications of FAL 436 increase fruit firmness and improves fruit quality on stone fruit.
- Application of FAL 436 reduces internal browning, increases size and improves fruit quality on Italian prune.
- Applications of FAL 436 can be made to Pecan trees to extend leaf retention and maintain green foliage.
- On strawberries, application of FAL 436 increases the production of runners by mother plants.
- Application of FAL 436 accelerates maturity, allowing early harvesting of artichoke.
- On carrots, application of FAL 436 delays leaf senescence and reduces the incidence of infection from *Alternaria dauci*.
- On celery, application of FAL 436 increases plant height and yield and increases plant ability to overcome stress due to cold weather conditions or saline soils, and obtain earlier maturity.
- Application of FAL 436 produces more uniform bolting and greater seed production on lettuce grown for seed.
- On melons and cucumbers, application of FAL 436 stimulates fruit set in extended periods of cool weather.
- Application of FAL 436 helps break dormancy and increase yield of forced rhubarb.
- Application of FAL 436 helps break dormancy and stimulates uniform sprouting on seed potato.
- On spinach, FAL 436 improves the quality, increases yield and aids harvest.
- On watercress, applications of FAL 436 helps enhance growth in adverse weather conditions, plants to resume growth following insect and disease

infestations and helps to increase root free stem length during low light or short day conditions.

- Application of FAL 436 can be used to initiate or maintain growth and prevent color change during periods of cold stress on Bermuda golf turf.
- On cotton, application of FAL 436 promotes early plant growth, increases seedling vigor and helps overcome stress induced by cool weather.
- Application of FAL 436 increases the yield and aids picking of seeded and seedless varieties of Fuggle hops and similar varieties.
- FAL 436 as a seed treatment promotes germination and emergence of semi-dwarf and tall rice varieties.
- Post-emergence application of FAL 436 on rice prior to permanent flooding promotes uniform and vigorous growth of semi-dwarfing varieties allowing earlier flooding with its associated agronomic benefits.
- FAL 43 can be applied to sugarcane to maintain yields in older plantings, increase bio-mass and stimulate growth before harvest of cane in older production fields (>3 years).
  
- Application of FAL 436 elongates the peduncles of pompom chrysanthemums.
- Application of FAL 436 promotes early flowering and increases flower yield on statice.

Use only as directed. Read thoroughly and understand the label before making applications.

The term 'grams of active ingredient per acre' is represented by 'g ai/acre' throughout this product label. See Conversion Table at end of Directions For Use section.

Thoroughly spray all parts of the plant or crop.

Use a clean empty spray tank for preparing and mixing the solution.

The pH of water used to prepare the spray solution must be less than 8.5.

Prepare solution concentrations by mixing the required amount of product with water only.

Degradation of the active ingredient may occur if solution is held over an extended period of time. A reduction in effectiveness may occur if the spray solution is held over a 24 hour period. Dispose of any unused spray material at the end of the day. Refer to the Storage and Disposal section of this label for pesticide disposal instruction.

When a range of rates is indicated, consult your local experimental station, distributor, or agricultural extension agent for the best program suited to your local conditions.

FAL 436 is best absorbed into the plant under slow drying conditions. Night-time applications will be more effective when day-time conditions cause rapid



drying of applications. This allows for the spray solution to be completely absorbed. Re-apply FAL 436 if significant rain occurs within 2 hours of application.

FAL 436 has a 0-day pre harvest interval (PHI).

Do not apply using ULV application methods.

For aerial applications spray volumes must be greater than 2 gallons per acre (10 gallons per acre for tree crops).

Consult your local experimental station, distributor, or agricultural extension agent regarding the compatibility of gibberellic acid with other compounds.

### **SPRAYING GUIDE FOR GRAPES**

Make application to grapes by ground sprayer. Use a properly calibrated sprayer to ensure uniform and complete coverage of flower clusters and berries.

### **TABLE GRAPES**

**Table 1 – Application rates and timing for table grapes**

**NOTES:**

<sup>1</sup> High doses can cause over-thinning or an excess of 'shot' berries, especially on young or vigorous vines.

<sup>2</sup> Conduct trials with small numbers of plants using recommended rates to determine the optimum rates for the situation before applying to the crop.

<sup>3</sup> A rate of 40-50 ppm/ai is used when dipping **or** spraying the cluster directly.

Seedless Varieties	'Stretch'		'Thinning'		'Sizing'		
	Rate g ai/A	Timing	Rate g ai/A <sup>1</sup>	Timing	Rate g ai/A	Timing	Target Diameter
Thompson	8-24	1-3 sprays before bloom. Flower clusters 2-7 inches long.	8-20	1-4 sprays during bloom. If bloom is extended apply 2 <sup>nd</sup> application 1-7 days after the 1 <sup>st</sup> application. <sup>2</sup>	32-128	1-4 sprays starting at these berry sizes. All applications to be made within 14 days.	3-5 mm
Flame	8-24		3-16		20-128		6-9 mm
Perlette	8-24		<sup>2</sup>		32-128		4-5 mm
Raisin	8-24		3-12		4-20		3-5 mm
Others	<sup>2</sup>		0.5-12		8-60		3-14 mm
Black Corinth (Zante Currant)					1-12	One application 3-5 days after full bloom but before shatter begins.	
<b>Seeded varieties</b>					<b>'Sizing' 'Reduced Berry Shivel' in Emperor</b>		
Calmeria					20 <sup>3</sup>	1 spray 14 days after shatter. Berry diameters of	12-16 mm
Christmas Rose							12-16 mm
Emperor	<sup>2</sup>						12-16 mm
Red Globe							12-18 mm
Rogue							12-16 mm

Queens			approx. 10-15 mm. May increase berry size.	12-15 mm
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### **BUMP SPRAY (Thompson Seedless)**

To initiate the beginning of the berry growth period, apply 16-24 g ai/acre during the period between the last thinning spray and the first sizing spray.

### **Berry Sizing Cluster Dip/Directed Spray (Seeded & Seedless Table Grapes)**

Apply FAL 436 at 20 to 50 ppm as a dip or directed spray to grape clusters when berries are 3-14 mm in size. To prepare the 20 to 50 ppm ai solution, mix 0.1 to 0.2 fl. oz. (2.8 to 7.0 mL) of FAL 436 per 5 gallons of water. Due to varietal differences, test a small number of bunches for a variety that the grower does not have prior experience with using this application method or rates.

### **WINE GRAPES**

To increase cluster length and improve air circulation and light penetration within the cluster, make a single spray application. Under certain conditions, i.e., moderate temperatures and high humidity, this application may help reduce the incidence of bunch rot and sour rot.

The application of gibberellic acid on seeded wine grape cultivars will cause some reduction in yield. Yield reduction may result from an increase in shot berries in the year of application, and/or a reduction in fruitfulness in the first and second year following the application.

**Table 2 – Application rates and timing for wine grapes**

Variety	Rate g ai/A	Timing
Palomino Sauvignon Blanc Tinta Madeira	0.4-1	1 spray when average flower cluster length is 3-4 inches. Do not make application less than three weeks before full bloom. Use is based on 100 gallons of water per acre.
Aleatico Carignane Chardonnay Chenin Blanc French Colombard Pinot Noir Valdepenas	1-2	
Barbera Petite Sirah Zinfandel	2-4	
Green Hungarian	4-8	
Grenache Alicante	8	
Salvadore	8-16	

### **SPRAYING GUIDE FOR CITRUS**

Use a properly calibrated sprayer to ensure uniform and complete coverage of all fruit. Do not exceed maximum application rates. Do not apply to trees of

low vigor or suffering stress of any kind as this can cause severe fruit and/or leaf drop. Some drop of older leaves may occur after application of gibberellic acid. Never tank mix FAL 436 with materials creating a high pH in the tank, e.g., white wash. To avoid significant leaf and/or fruit drop, do not use copper fungicides and/or oils within three weeks of a FAL 436 application.

### **GRAPEFRUIT (All approved states except California)**

All Grapefruit Varieties **Except** *Star Ruby*:

***To delay rind aging and prevent pre-harvest drop of mature fruit and increases peel strength:*** Spray 16-56 g ai/acre as a dilute spray in a minimum of 250 gallons of water per acre. Ensure thorough wetting.

Early spray (Before color change): Make one application 14 days before color break (usually August to September).

Late spray (After color break): Make one application after marketable color has developed (usually October to December). Late application may cause some re-greening of the fruit.

**Do not apply to areas that are destined to be harvested early as treatment will delay color change. Application after coloring will cause fruit to re-green if left on the tree for an extended period of time. Do not apply after December or after trees break dormancy in order to avoid adversely affecting the next crop. Efficacy of grapefruit treatment varies from season to season, depending on environmental conditions.**

***To increase fruit set and yield:*** Make one application December – January of 15-25 g ai/acre as a dilute spray of 125-175 gallons of water per acre with a pure organo-silicone surfactant at a concentration of 0.05% (6 fl. oz./100 gallons).

Grapefruit - Star Ruby Variety:

***To reduce early fruit drop:*** Make one application of 25-35 g ai/acre as a dilute spray in a minimum of 250 gallons of water per acre during bloom.

Note: Efficacy of treatment varies from season to season, depending on environmental conditions. Use a fertilizer and watering program to maintain optimal tree health and vigor.

***To enhance fruit set and yield:*** Make one application December – January of 15-25 g ai/acre as a dilute spray of 125-175 gallons of water per acre with a pure organo-silicone surfactant at a concentration of 0.05% (6 fl. oz./100 gallons).

### **LEMONS & LIMES**

Make one application of 10-32 g ai/acre as a dilute spray or concentrate, ensuring thorough spray coverage, when the target crop is  $\frac{1}{2}$  -  $\frac{3}{4}$  full size and still green.

## **NAVEL ORANGES**

Apply 16-48 g ai/acre as a dilute spray or concentrate ensuring thorough spray coverage. To avoid reduced yield in the following season, do not spray Navel oranges from January to July. Do not apply to areas that are destined to be harvested early as treatment will delay color change.

**Early spray (Before color change):** Make one application 14 days before color break (usually August to November). Application at this timing produces the greatest delay in rind aging and the firmest rind possible.

**Late spray (After color break):** Make one application after marketable color has developed (usually October to December). Late application may cause some re-greening of the fruit.

***To enhance fruit set and yield (Florida use only):*** Make one application December – January of 15-25 g ai/acre as a dilute spray of 125-175 gallons of water per acre with a pure organo-silicone surfactant at a concentration of 0.05% (6 fl. oz./100 gallons).

## **TANGERINE HYBRIDS**

***To enhance fruit set and yield:*** Make one application of 8-30 g ai/acre as a dilute spray during full bloom ensuring all foliage is wetted. A reduction in fruit size, retardation of color development and a slight increase in the drop of mature leaves may occur with this type of treatment.

***To reduce rind disorders:*** Make one application of 20-40 g ai/acre as a dilute spray 14 days before color break in sufficient water to ensure thorough spray coverage. Do not apply to areas that are destined to be harvested early as treatment will delay color change. To avoid pre-harvest staining, do not apply after coloring. Variations in rind color development can occur if applications are made during coloring.

## **VALENCIA ORANGES (All approved states) & OTHER ROUND ORANGES (All approved states except California)**

***To delay rind aging and softening:*** Make one application of 40-80 g ai/acre as a dilute spray or concentrate in August to October.

This application will delay color development and re-green any mature fruit present at application. After marketable color has been achieved, beneficial treatment affects will gradually lessen the longer the fruit remains on the tree.

***To enhance fruit set and yield (Florida use only):*** Make one application December – January of 15-25 g ai/acre as a dilute spray of 125-175 gallons of water per acre with a pure organo-silicone surfactant at a concentration of 0.05% (6 fl. oz./100 gallons).

## **OTHER CITRUS**

### **CLEMENTINE MANDARIN**

Make EITHER 1-2 applications of 1-40 g ai/acre as a dilute spray from 50% petal fall up to 3 weeks after petal fall. Ensure thorough spray coverage of tree canopy. Do not exceed 40 g ai/acre/season; OR make 1-4 applications from early bloom up to four weeks after petal fall. Use a sufficient spray volume to ensure thorough coverage of tree canopy, typically, 1-8 g ai per 100 gallons of spray solution. Allow at least three days between sprays. Do not exceed 40 g ai/acre/season.

### **AMBERSWEET (Florida use only)**

Make one application in January of 15-25 g ai/acre as a dilute spray of 125-175 gallons of water per acre with a pure organo-silicone surfactant at a concentration of 0.05% (6 fl. oz./100 gallons).

## **POSTHARVEST APPLICATIONS FOR CITRUS**

### **LEMONS**

Apply 50-100 ppm ai in 10 gallons of storage wax diluted as per wax label instructions.

### **YELLOW LEMONS AND OTHER MATURE CITRUS**

Apply FAL 436 postharvest at a rate of 50-100 ppm ai or add 0.5 – 1 fl. oz. of product to 10 gallons of storage wax diluted as per wax label instructions.

## **SPRAYING GUIDE FOR OTHER FRUIT CROPS**

### **BANANAS**

To treat fruit, make one application of 1-6 g ai/acre of FAL 436 by air or ground every 30 to 90 days throughout the year. Monthly applications can be made up to 6 months prior in anticipated weather stress periods.

### **BLUEBERRIES (All approved states except California)**

Highbush blueberry (varieties such as Berkley, Bluecrop, Blueray, Concord, Coville, Earliblue, Jersey, Stanley, Walcott, Weymouth, and 1316A):

Make EITHER a single application of 80 g ai/acre in 40-100 gallons of water, OR two applications of 40 g ai/acre in 40-100 gallons of water. Make the single application at full bloom (75% of the flowers are fully open). When making two applications, spray the first one at full bloom and the second one within 10-14 days. For Weymouth, application can be delayed up to two weeks after bloom to increase size of 'shot' berries.

Rabbiteye blueberry (varieties such as Aliceblue, Beckyblue, Bonita, Brightwell, Climax, Delite, Tiftblue, and Woodward):

Make EITHER a single application of 40-80 g ai/acre in 40 - 100 gallons of water when most of the flowers are elongated but not yet open (bloom stage)

5), OR 2-4 applications of 20-40 g ai/acre in 50 - 300 gallons of water every 10-14 days starting at bloom stage 5. Ensure thorough spray coverage.

**CHERRIES – RED TART (All approved states except California)**

Make a single application 14 – 28 days after bloom when 3 – 5 terminal leaves are fully expanded or at least 1 – 3 inches of terminal growth have occurred. Apply FAL 436 according to the table below as a dilute spray in 100 – 150 gallons of water/acre. Lower water volumes can be used, but plants must not be overdosed. Treatment results are not apparent until 2 – 3 years after initial application and are dependent on annually repeated applications.

**Table 3 – Application rates for red tart cherries**

Tree age (years)	Grams ai/acre
6 – 10	4 – 6
11 – 15	8 – 10
16 – 20	10 – 14
21 +	14 – 18

These application rates are based on tree vigor. Rates must be adjusted to the vigor expressed in each orchard. Use higher rates for trees of low vigor and the lower rates for trees of high vigor. Treatment with FAL 436 cannot overcome the effects of nutritional, water, pest, disease or other stress on trees. Excessive application will increase vegetative growth at the expense of fruit production the following year.

**CHERRIES – SWEET**

**Single application:** Make one application of 16-48 g ai/acre (do not exceed a total of 48 g ai/acre) as a dilute spray on large mature trees when the fruit is light green to straw colored in sufficient water to ensure thorough wetting.

**Split applications:** Make the first application of 8-24 g ai/acre when fruit is light green to straw colored. Make the second application of 8-24 g ai/acre 7-14 days later. Do not exceed a total of 48 g ai/acre.

**Multiple applications (All approved states except California):** Make the first application of 6-24 g ai/acre when the majority of fruit is light/translucent green. Make subsequent applications of 2-24 g ai/acre at 3-7 day intervals. Do not apply FAL 436 later than 14 days before harvest. Do not exceed a total of 48 g ai/acre. Apply in sufficient water to ensure thorough wetting.

Treatment may delay color development and harvest.

**CHERRIES - NON-BEARING SWEET AND TART (All approved states except California)**

Make one application of 10-20 g ai/acre as a dilute spray in 25 – 50 gallons per acre 2 – 4 weeks after bloom. (This rate is based on a tree density of 100 trees/acre). In conditions of low vigor, 2 applications can be made allowing at least a 7-day interval between applications.

Do not treat trees in their first year. Treat in the second season to reduce fruiting in the third season and treat again in the third season if it is necessary to reduce fruiting in the fourth. Discontinue the use of FAL 436 one year before commercial harvest is planned.

**CRANBERRY (All approved states except California)**

Apply FAL 436 to decrease or eliminate fruit set in the year of application. Make one application of 10-50 g ai/acre at early bloom (2-5% scatter bloom) in sufficient water to ensure thorough coverage. To avoid applications having no effect or the opposite effect (increased fruit size), do not apply later than indicated.

**PINEAPPLE (All approved states except California)**

**To Improve Fruit Sizing:** Make one application of 400 g ai/acre of FAL-436 by air or ground 14-18 weeks after flowering.

**To Improve Uniformity of Fruit Maturity and Enhance Harvest Efficiency:**

Make the first application within a few days after planting once plants are established. Repeat applications may be made at 3 to 4 week intervals. The application rate per application is 12-24 g ai/acre.

**OTHER STONE FRUIT**

Make one application of 16-32 g ai/acre as a dilute spray 1 – 4 weeks prior to the beginning of harvest. Use sufficient water to ensure thorough spray coverage. Applications in May through July may cause a reduction in flower counts in the year following application.

**ITALIAN PRUNE**

Make one application of 16-48 g ai/acre in sufficient water to ensure thorough coverage. Apply 4-5 weeks before anticipated harvest.

**NON-BEARING STONE FRUIT (All approved states except California)**

Make one application of 20-80 g ai/acre during flower bud initiation for the following years' development. Use sufficient water to ensure thorough spray coverage of the tree canopy. Do not treat trees in their first year. Treat with FAL 436 in the second season to reduce flowering and fruiting in the third season. Treat again in the third season if flower/fruit reduction is desired in the fourth season. Discontinue the use of FAL 436 one year before commercial harvest is planned.

**PECAN (All approved states except California and Arizona)**

- Applications of FAL 436 can be made to Pecan trees to extend leaf retention and maintain green foliage. Make 1-4 applications of 10 g ai/Acre beginning in July. Applications may continue through October as needed. Complete spray coverage is essential. Use sufficient water spray volume to achieve thorough coverage. In most cases 100 gallons per acre has been shown to be effective.

FAL 436 may be tank mixed with pesticides and other materials as needed. As all possible combinations of products that may be applied

have not been tested for compatibility, it is recommended that a jar test be performed with potential tank mix partners before mixing a tank for application. Test tank mixes for which there is no previous experience on a limited area to assure no damage or undesirable affect occurs from the particular tank mix.

**Restriction:**

Do not make more than 1 application of FAL 436 in July. Using more than 1 application in July may result in reduced return bloom

**STRAWBERRIES (All approved states except California)**

Make one application of 15-25 g ai/acre in 100 gallons of water/acre 10 – 30 days after planting, when plants have 1 – 6 leaves. Spray to the point of run-off. For best results, do not apply to plantings after mid-May. Do not apply to fruiting plants.

**CRANBERRY (All approved states except California)**

Apply FAL 436 to decrease or eliminate fruit set in the year of application. Make one application of 10-50 g ai/acre at early bloom (2-5% scatter bloom) in sufficient water to ensure thorough coverage. To avoid applications having no effect or the opposite effect (increased fruit size) do not apply later than indicated.

**SUGARCANE (All approved states except California)**

FAL 436 can be applied to sugarcane to maintain yields in older plantings, increase bio-mass and stimulate growth before harvest of cane in older production fields (>3 years). Make an application of 1.0-2.0 g ai/acre to sugarcane when at 1<sup>st</sup> to 5<sup>th</sup> internode stage in a minimum of 20 gal/acre spray volume. The addition of a non- ionic surfactant may increase activity.

**SPRAYING GUIDE FOR VEGETABLE CROPS**

**ARTICHOKE**

Make 1 - 3 applications of 10-20 g ai/acre to perennials at bud initiation. For annuals, make 1 – 4 applications at 2-week intervals, beginning at the fourth true leaf stage. Use sufficient water to ensure thorough wetting of the entire plant.



### **CARROTS (Fresh and Processing)**

Make first application of 1-6 g ai/acre 4 – 6 weeks after emergence using commercial ground or aerial equipment with spray concentrations of 20-30 ppm. A second application 14 days later may be required to achieve desired foliar recovery in severe disease situations or cool weather. Do not make more than two applications per crop cycle.

Dilutions of greater concentrations can increase the risk of excessive top growth, which can result in a delay in root development. This is especially true with a second application.

### **CELERY**

Make one application of 2.5-10 g ai/acre, 1 to 4 weeks prior to harvest. Use 25 – 50 gallons of water/acre by ground application or 5 – 10 gallons of water/acre for aerial application (except in California). Use lower concentrations if applying 3-4 weeks before harvest and higher concentrations within 1-2 weeks before harvest. Do not apply earlier than 4 weeks before harvest as bolting can occur.

### **LETTUCE FOR SEED**

Make 1 – 4 applications of 1-4 g ai/acre as a dilute spray at 2-week intervals beginning at the fourth true leaf stage. Use sufficient water to ensure thorough wetting.

### **MELONS AND CUCUMBERS (All approved states except California)**

For cantaloupes and watermelons, make one application of 1-4 g ai/acre in sufficient water to ensure thorough wetting prior to bloom. Make 2 further applications at 10 – 14 day intervals. For cucumbers, 3 – 4 applications following fruit set may be required. For maximum benefit of these treatments to be achieved, vines must be in good condition.

### **PEPPERS (All approved states except California)**

***To promote plant growth:*** In areas with short growing seasons or where low temperatures cause slow plant growth, make 1 – 2 applications of 1-3 g ai/acre in 25 – 50 gallons of water/acre starting 2 weeks after planting. Repeat at 2-week intervals.

***To promote plant growth and increase fruit set:*** Make 1 – 2 applications of 1-3 g ai/acre in 25 – 50 gallons of water/acre during flowering. Use the higher rate for areas and varieties with pollination and fruit set problems.

***To increase fruit size:*** Make one application of 1-3 g ai/acre in 25 – 50 gallons of water/acre at the beginning of picking. Use the higher rate for plants carrying high numbers of fruit.

### **RHUBARB**

If the rest period is not broken, make a single application of 2 fl. oz. of a solution containing 20 g ai in 10 gallons of water to each cleaned crown. When the rest period is broken by cold weather, apply 2 fl. oz. of a solution containing 10 g ai in 10 gallons of water to each cleaned crown. Maintain

forcing house temperatures at 40°F – 50°F for 24 hours following application. To prevent lower yields and poor stalk color, keep temperatures below 50°F.

### **SEED POTATOES**

Dip freshly dug seed potatoes in a solution of 0.2-0.4 g ai in 100 gallons of water before planting.

Potatoes treated with FAL 436 must not be used for food or feed purposes. Do not treat rested seed and use the lower rate for dormant seed if soil temperatures are high.

### **SPINACH - FALL AND OVERWINTERED (All approved states except California)**

Make one application of 6-10 g ai/acre 10 – 18 days before each anticipated harvest in 10 – 50 gallons of water if applied using ground equipment, or a minimum of 5 – 10 gallons of water/acre if sprayed by air. Ideally, spray in the early morning when dew is present on the crop and daytime temperatures are between 40° – 70°F. Maximum benefit is seen from this treatment when low temperatures would limit the growth of untreated spinach.

Do not apply to spring sown spinach. Do not treat spinach after mid-winter or if temperatures are expected to exceed 75°F within several days of application as this can induce bolting.

### **WATERCRESS**

Make 1 to 2 applications of 15-25 g ai/acre/crop of FAL 436 at 3 to 7 days prior to harvest. Apply in a spray volume of 50 to 100 gallons of water per acre.

### **SPINACH, MUSTARD GREENS, COLLARD GREEN AND TURNIP GREENS (All approved states except California)**

FAL 436 may be applied to certain leafy vegetables to facilitate harvest, increase yield and improve quality of fall and over-winter crops. Make one application of 4-10 g a.i./acre 10-18 days before each anticipated harvest. Make applications in 10-50 gallons of water per acre by ground sprayer or in a minimum of 5-10 gallons of water per acre by air.

Make applications when daytime temperatures are between 40° F – 70° F and during early morning hours when dew is present on crop. Maximum benefit is obtained when below normal temperatures prevail following application and growth would be otherwise slowed in untreated crops. When applied to promote growth of second cutting, wait until some regrowth has started before spraying.

Since the promotion of bolting has been known to occur, do not apply after the mid-winter period or if temperatures are expected to exceed 75° F within several days of application. Do not apply on spring plantings.

## **SPRAYING GUIDE FOR OTHER CROPS**

Do not exceed the application rates noted below or reduce the time interval between applications. Do not apply during extended warm periods if night temperatures exceed 65°F. Continue good ground keeping practice and stop treatment if thinning of the grass occurs. Do not use on dormant turf.

### **BERMUDA GOLF TURF (All approved states except California)**

Make one application of 10 g ai weekly or 25 g ai in 25 – 100 gallons of water/acre every 2 weeks.

### **COTTON (All approved states except California)**

Apply 1-6 g ai/acre by furrow application to the seed or as a foliar spray between the cotyledon and 5-leaf stage. Apply in 5 – 40 gallons of water/acre for ground applications or 3 – 10 gallons/acre by air. Repeat applications as necessary, but do not exceed 4 in total. Use higher rates when temperatures are likely to average 75°F or less during the 14 days after application. To avoid excessive growth, do not over treat.

### **HOPS (North-western U.S. only)**

Make one application of 4-6 g ai in 100 – 150 gallons of water/acre when vine growth is 5 – 8 feet long.

### **RICE SEED TREATMENT**

FAL 436 can only be applied to seed intended for drilling or dry broadcast. Do not apply to rice used in a 24-hour soak prior to broadcasting. Apply 1 – 2 g ai in 8 – 20 fl. oz. of water per 100 pounds of seed.

FAL 436 can be applied using mist-treatment equipment, but best effect is achieved using the higher water volume. Half fill the seed treatment tank with water then add the required amount of FAL 436 and mix thoroughly while adding any further seed treatment materials before making up to the desired final water volume. **An approved dye must be added to treated seed to prevent inadvertent use for food, feed or oil purposes.** FAL 436 is compatible with most commonly used seed treatments, standard dyes and binding agents. However, users should conduct the following physical compatibility test and a mixing compatibility test before mixing and applying product to large areas: 1) Add pesticides in the correct proportions. 2) Mix thoroughly and let stand for at least 15 minutes. 3) Observe for any signs of incompatibility e.g., heat, separation, gelling.

### **RICE SEEDLING POST-EMERGENCE TREATMENT**

When permanent flooding takes place before tiller development, make one application of FAL 436 at 2-3 g ai/acre at the 1 - 2 leaf stage. When flooding will be made following initial tilling, apply 1 to 3 g ai/acre at the 3 to 4 leaf (4<sup>th</sup> leaf showing) stage. Use higher rates when temperatures are likely to average 75°F or less during the 14 days after application. Either application will allow the establishment of a permanent flood 7 - 10 days earlier. Do not exceed the specified rates or make more than one application.

Apply FAL 436 by fixed wing aircraft equipped with spray systems capable of producing a uniform medium to fine spray droplet pattern in not less than 10 gallons of water/acre. Low-pressure ground sprayers equipped with boom and flat fan nozzles applying 10 - 15 gallons of water/acre can also be used.

**Ensure fields have been drained of floodwater before application** and avoid spray drift onto other crops. Do not apply to crops suffering stress. Do not add surfactants, oils or any type of adjuvants to the spray tank. These treatments may cause the crop to become a lighter shade of green. This is a temporary effect and is caused by the increased growth rate.

**HYBRID RICE FOR SEED PRODUCTION (All approved states except California)**

Applications of FAL 436 will promote main culm and tiller panicle extension, resulting in increased pollination and improved harvest efficiency. Make one to five applications of FAL 436 at 20-100 g ai/acre applied at regular intervals during the heading period.

**POMPOM CHRYSANTHEMUMS (All approved states except California)**

Make one application of 0.5-1 g ai in 12 gallons of water 28 – 35 days after initiation of short day program. Apply this solution over 1000 sq. ft. of bed using overhead nozzles directed at the flower buds. Ensure uniform and complete coverage of foliage without run-off as over application can cause long, spindly, weak stems.

**STATICE (All approved states except California)**

Make one application of 40 – 50 g ai in 25 gallons of water when plants are more than 10 inches in diameter (approx. 90 – 110 days after planting). Apply 10ml of spray as a drench to each plant.

Do not exceed the specified application rate or repeat treatment. Initiation of flowering is influenced by extended photo-period, nutrition and reduced night temperature. Treatment with FAL 436 lessens the need for reduced night temperature and long photo-period.

**CONVERSION TABLE**

For each gram of active ingredient required, use 0.25 fl. oz. of FAL 436.

<b>Grams ai per acre</b>	<b>to</b>	<b>FAL 436 per acre</b>	<b>Grams ai per acre</b>	<b>to</b>	<b>FAL 436 per acre</b>
0.5		0.13 fl. oz.	20.0		5.0 fl. oz.
1.0		0.25 fl. oz.	32.0		8.0 fl. oz.
5.0		1.25 fl. oz.	40.0		10.0 fl. oz.
10.0		2.5 fl. oz.	48.0		12.0 fl. oz.
16.0		4.0 fl. oz.			

**STORAGE AND DISPOSAL**

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

Pesticide Storage: Keep containers tightly closed when not in use.

*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:* Non-refillable container. Do not reuse or refill this 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 ¼ 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. Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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