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04-14-2011

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

OFFICE OF CHEMICAL SAFETY AND
POLLUTION PREVENTION

April 14, 2011

Jane Miller
J. Oliver Products, LLC
c/o Biologic, Inc.
115 Obtuse Hill Road
Brookfield, CT 06804

Subject: Notification – Revised per PR Notice 2007-4
EPA Registration Number: 83222-24
Date of Submission: February 23, 2011

Dear Ms. Miller:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration (PRN) 98-10 dated February 23, 2011, for the above mentioned product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please contact BeWanda Alexander at (703) 305-7460 or e-mail alexander.bewanda@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "BeWanda Alexander for".

Richard Gebken
Product Manager 10
Insecticide Branch
Registration Division (7505P)

Enclosures: Copy of Label Stamped "Notification"

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United States
Environmental Protection Agency
 Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 83222-24	2. EPA Product Manager R. Gebken	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Bifen 2 AG Gold-CAL	PM# 10	
5. Name and Address of Applicant (Include ZIP Code) J. Oliver Products, LLC c/o Biologic, Inc. 115 Obtuse Hill Road Brookfield, CT 06804 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

NOTIFICATION

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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of label change per PR Notice 2007-4. This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if the amended label is not consistent with the requirements 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
					<input type="checkbox"/> Glass
					<input type="checkbox"/> Paper
					Other (Specify) _____
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 2.5, 5, 15 gal.		5. Location of Label Directions <input checked="" type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Jane M. Miller	Title Agent	Telephone No. (Include Area Code) (203) 740-1200
2. Signature 		3. Title Agent
4. Typed Name Jane M. Miller		5. Date February 23, 2011
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)

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Bracketed [] text optional

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

BIFEN 2 AG Gold-CAL INSECTICIDE/MITICIDE

FOR SALE AND USE ONLY IN CALIFORNIA

[For use to control listed insects and mites on brassicas, caneberries, canola, corn, cotton, crambe, cucurbits, head lettuce, lima beans, peppers, and rapeseed.]

[<PRODUCT NAME> contains Bifenthrin, the active ingredient used in <BRAND NAME>™ or ®.]
[<PRODUCT NAME> is not manufactured or distributed by <BASIC REGISTRANT / BRAND HOLDER>, seller of <BRAND>™ or ®.]
[<BRAND>™ or ® is a trademark of <TRADEMARK HOLDER>.]

ACTIVE INGREDIENT:	%BY WT.
Bifenthrin: (2 methyl[1,1 -biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate*	25.1%
OTHER INGREDIENTS**:	<u>74.9%</u>
TOTAL	100.0%

*Cis isomers 97% minimum, trans isomers 3% maximum.
 **Contains xylene range aromatic solvents.
 This product contains 2 pounds active ingredient per gallon.

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 [side] [other] [inside label booklet] [panel] for additional precautionary statements.]

EPA Reg. No. 83222-24

EPA Est. No. XXXXX-XX-XXX

Net Contents: _____

Manufactured By:
 J. Oliver Products, LLC
 3187 Robertson Gin Road
 Hernando, MS 38632

FIRST AID	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For a medical emergency involving this product call: 1-800-222-1222.	
IF SWALLOWED:	<ul style="list-style-type: none">• Immediately call a poison control center or doctor.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give any liquid to the person.• Do not give anything by mouth to an unconscious person.
IF IN EYES:	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.• Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN: This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and should be avoided. This product contains a petroleum distillate; vomiting may cause aspiration pneumonia.	

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING**

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if inhaled or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Wear protective eyewear (goggles, face shield, or safety glasses)

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 E on an EPA chemical resistance category selection chart.

Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or viton
- shoes plus socks

Handlers who may be exposed to the concentrate through mixing, loading, application, or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or viton
- shoes plus socks
- Protective eyewear

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

PHYSICAL/CHEMICAL HAZARDS

COMBUSTIBLE: Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

RESISTANCE MANAGEMENT

Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present.

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If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

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, such as barrier laminate, nitrile rubber, neoprene rubber, or viton
- Shoes plus socks

STORAGE AND DISPOSAL

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

Pesticide Storage: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not store this product near fertilizers, seeds, or other pesticides. Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. Damaged or leaking containers that contain product that cannot be used immediately should be transferred to suitable sound containers and properly marked. Reclose all partially used containers by thoroughly tightening screw cap. Do not put concentrate or dilute material into food or drink containers

Opened partially used pesticides should be stored in original containers when possible. When transfer to another container is necessary because of leakage or damage, carefully mark and identify contents of the new container. Keep containers closed when not in use.

For safety and prevention of unauthorized use, all pesticides should be stored in locked facilities. To prevent accidental misuse, different pesticides should be stored in separate areas with enough distance between to provide clear identification.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

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

Container Disposal: Nonrefillable Container: Metal or Plastic Container. Do not reuse or refill container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill or by other procedures approved by State and local authorities. Triple rinse as follows:

Containers 5 gallons or less: Empty the remaining contents into application equipment and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into 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.

Containers larger than 5 gallons: Empty the remaining contents into application equipment. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over on its other end and tip back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Refillable Containers: Return container to point of purchase for reuse with seal intact and in salable condition. Refill this container with Bifen 2 AG Gold-CAL only. Do not reuse this container for any other purpose. Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

SPECIAL EQUIPMENT

In the State of California this product must be used in closed systems that meet the criteria for closed systems as established by the California Department of Food and Agriculture. The criteria and a list of the closed systems meeting the criteria are available through the California Department of Food and Agriculture.

ROTATIONAL CROPS

Crops for which bifenthrin tolerances exist may be rotated at anytime. All other crops may be rotated 30 days following the final application of bifenthrin. Straw may not be used for food or feed.

TANK MIXTURES

Bifen 2 AG Gold-CAL may be applied in tank-mixtures with other products approved for use on cotton. Observe all restrictions and precautions which appear on the labels of these products.

APPLICATIONS INSTRUCTIONS

Application rates will vary according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations and higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

CHEMIGATION USE DIRECTIONS

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

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

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturer's, or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

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

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

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

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

The system must contain function 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.

Bifen 2 AG Gold-CAL should be applied continuously for the duration of the water application. Bifen 2 AG Gold-CAL should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

BUFFER ZONES

Vegetative Buffer Strip

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

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

For guidance, refer to the following publication for information on constructing and maintaining effective buffers:

- Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21 pp.

<http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf>.

Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast)

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

Buffer Zone for ULV Aerial Application

Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for Non-ULV Aerial Application

Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

SPRAY DRIFT REQUIREMENTS

Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition.

Do not apply when wind velocity exceeds 15 mph.

Temperature Inversions

Do not make aerial or ground applications into temperature inversions.

Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

Droplet size

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

Additional Requirements for Ground Application

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

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

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

Additional Requirements for Aerial Application

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

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

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

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

CROP USE INSTRUCTIONS

BRASSICA CROPS

Apply as directed using the rates in the table below.

CROP	PEST/RATE	APPLICATION INSTRUCTIONS
Head and Stem Brassica Vegetables including: Broccoli, Chinese Broccoli (gai lan, White flowering broccoli), Brussels sprouts, Cauliflower, Cavalo broccoli, Kohlrabi, Cabbage, Chinese Cabbage (napa),	<p>PESTS: Cutworms, Corn Earworm, Saltmarsh Caterpillar, Flea Beetles, Imported Cabbageworm, Cucumber Beetles, Whitefly, Armyworms, Loopers, Crickets, Diamondback Moth</p> <p>RATE: 2.1 to 6.4 fl. oz./acre (0.033 to 0.1 lb. ai/acre)</p>	<p>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment.</p> <p>When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>
	<p>PESTS: <i>Lygus</i> spp.</p> <p>RATE: 5.12 to 6.4 fl. oz./acre (0.08 to 0.1 lb. ai/acre)</p>	

RESTRICTIONS:

- Do not apply more than 0.5 lb. active ingredient (1 quart) per acre per season.
- Do not make more than 5 applications after bloom.
- Do not make applications less than 7 days apart.
- Do not apply within 7 days of harvest.

CANEBERRIES

Apply as directed using the rates in the table below.

CROP	PEST/RATE	APPLICATION INSTRUCTIONS
Caneberries including: Blackberries, Bingleberries, Dewberries, Lowberries, Marionberries, Olallieberries, Youngberries, Loganberries, Raspberries	<p>PESTS: Leafrollers, Orange Tortrix, Root Weevils</p> <p>RATE: 3.2 to 6.4 fl. oz./acre (0.05 to 0.1 lb. ai/acre)</p>	<p>Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground).</p> <p>One application may be made pre-bloom and a second application may be made post bloom.</p>
	<p>PEST: Spider Mites</p> <p>RATE: 6.4 fl. oz./acre (0.1 lb. ai/acre)</p>	

RESTRICTIONS:

- Do not apply within 3 days of harvest.
- Do not exceed 0.2 lb ai per acre per season.
- Do not apply within 4 days of harvest for caneberries that are hand-harvested.

CANOLA, CRAMBE, RAPESEED

Apply as directed at a rate of 2.1 to 2.6 fl. oz. (0.033 to 0.04 lb. ai) per acre.

PEST	APPLICATION INSTRUCTIONS
Aphids, Cutworms, Diamondback Moth, Loopers, Other Lepidopterous Larvae, Lygus Bugs, Flea Beetle, Flea Hopper, Grasshoppers, Plant Bugs, Stink Bugs,	<p>Apply in a minimum of 2 gallons of finished spray per acre by air, or in a minimum of 10 gallons per acre with ground equipment.</p> <p>When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>

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Seedpod Weevil, Thrips, Whitefly, Armyworms	
RESTRICTIONS:	
<ul style="list-style-type: none"> • Do not apply more than 0.08 lb. active ingredient (5.12 ounces) per acre per season. • Do not make applications less than 14 days apart. • Do not apply within 35 days of harvest. 	

COTTON

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
European Corn Borer, Soybean (Banded) Thrips, Tobacco Thrips	1.3-6.4 fl. oz./acre (0.02-0.10 lb. ai/acre)	Bifen 2 AG Gold-CAL may be applied in water or refined vegetable oil (soybean/cottonseed). Application in Water: Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.
Boll Weevil, Bollworm, Cabbage Looper, Cotton Aphid, Cotton Fleahopper, Cotton Leafperforator, Cutworms, Fall Armyworm, <i>Lygus</i> spp. Plant Bugs, Saltmarsh Caterpillar, Southern Garden Leafhopper, Stink Bugs, Tobacco Budworm, Whitefly, Yellowstriped Armyworm	2.6-6.4 fl. oz./acre (0.04-0.10 lb. ai/acre)	To Control Boll Weevil: Apply Bifen 2 AG Gold-CAL at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels. To Control Mites and Aphids: Apply when pests first appear. Repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section. Higher rates will be required once a damaging threshold is established.
Beet Armyworm, Carmine Spider Mite, Pink Bollworm, Twospotted Spider Mite	3.8-6.4 fl. oz./acre (0.06-0.10 lb. ai/acre)	
RESTRICTIONS:		
<ul style="list-style-type: none"> • Do not apply more than 0.3 pound active ingredient per acre per season. • Do not make more than 3 applications per growing season. • Do not apply within 14 days of harvest. • Do not graze livestock in treated areas or cut treated crops for feed. • Do not make more than 10 synthetic pyrethroid applications (of one product or combinations or products) to a cotton crop in one growing season. 		

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FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Corn Rootworm Larvae (Western)	0.30 fl. oz. (.0046 lb. ai) per 1,000 linear feet of row	Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe in front of the press wheel centered over the row. Use the table below to determine the Bifen 2 AG Gold-CAL needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.
Army Cutworm, Cutworm Species, Grubs, Seed Corn Beetle, Seed Corn Maggot, True Armyworm or Armyworm Species, Wireworms	0.15 to 0.30 fl. oz. (.0023 to .0046 lb. ai) per 1,000 linear feet of row	<p>Mix Bifen 2 AG Gold-CAL with water or fertilizer in the following manner. Fill the spray tank approximately one half full with water or liquid fertilizer, add the proper amount of Bifen 2 AG Gold-CAL, then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.</p> <p>Applications of Bifen 2 AG Gold-CAL alone or in recommended tank mixtures, in conjunction with in-furrow pop-up fertilizers may be used. A jar compatibility test should be performed with the appropriate ratio of Bifen 2 AG Gold-CAL and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.</p>

RESTRICTIONS:

- Do not apply to soil where there is greater than 30% cover of crop residue remaining.
- Do not apply within 30 days of harvest.
- Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.
- Do not apply more than 0.1 pound active per acre per season as an at-plant application.

Row spacings (inches)	40	38	36	30
Bifen 2 AG Gold-CAL (pounds ai per acre)	0.060	0.064	0.069	0.080
Bifen 2 AG Gold-CAL (formulated product ounces per acre)	3.9	4.1	4.4	5.12

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FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids, Beet Armyworm, Chinch Bug, Corn Earworm, Corn Rootworm Adult, Cucumber Beetle Adults, Cutworm Species, Fall Armyworm, Flea Beetle, Grasshoppers, Greenbug, Japanese Beetle Adult, Leafhoppers, Stinkbugs, Thrips, True Armyworm, or Armyworm Species, Webworms, Yellowstriped Armyworm	2.1 to 6.4 fl. oz. (0.033 to 0.10 lb. ai) per acre	<p>Apply in a minimum of 2 to 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p> <p>To Control Ear-Attacking Pests: Apply Bifen 2 AG Gold-CAL just before silking and repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p> <p>For Control Of Other Insect Pests: Apply when pests first appear and repeat as necessary.</p> <p>Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.</p> <p>For Twospotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions.</p>
Banks Grass Mite, Carmine Mite, Twospotted Spider Mite	5.12 to 6.4 fl. oz. (0.08- 0.10 lb. ai) per acre	<p>For Twospotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions.</p>
<p>Restrictions:</p> <ul style="list-style-type: none"> • Do not apply more than 0.2 pound active ingredient per acre per season • Do not apply within 30 days of harvest. • Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application. • Use of ultra low volume (ULV) application on corn is prohibited. • Do not make aerial or ground applications to corn if heavy rainfall is imminent. • Use of Bifen 2 AG Gold-CAL is prohibited in all coastal counties. 		

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SWEET CORN GROWN FOR SEED (AT PLANT USE)

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS			
Corn Rootworm Larvae (Western)	0.30 fl. oz. (.0046 lb. ai) per 1,000 linear feet of row	Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the Bifen 2 AG Gold-CAL needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.			
Cutworm Species, Grubs, Seed Corn Maggot, True Armyworm, or Armyworm species, Wireworms	0.15 to 0.30 fl. oz. (.0023 to .0046 lb. ai) per 1,000 linear feet of row	<p>Mix Bifen 2 AG Gold-CAL with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper amount of Bifen 2 AG Gold-CAL, then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.</p> <p>Applications of Bifen 2 AG Gold-CAL alone or in recommended tank mixtures, in conjunction with in-furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Bifen 2 AG Gold-CAL and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.</p>			
<p>RESTRICTIONS:</p> <ul style="list-style-type: none"> Do not apply to soil where there is greater than 30% cover of crop residue remaining. Do not apply within 30 days of harvest. Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment. Do not apply more than 0.1 pound active per acre per season as an at-plant application. Use of Bifen 2 AG Gold-CAL is prohibited in all coastal counties. 					
Row spacings (inches)		40	38	36	30
Bifen 2 AG Gold-CAL (pounds per acre)		0.060	0.064	0.069	0.080
Bifen 2 AG Gold-CAL (formulated product ounces per acre)		3.9	4.1	4.4	5.12

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SWEET CORN GROWN FOR SEED (FOLIAR USE)

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids, Army Cutworm, Beet Armyworm, Chinch Bug, Corn Earworm, Corn Rootworm Adults, Cucumber Beetle Adult, Cutworm Species, Fall Armyworm, Flea Beetle, Grasshoppers, Greenbugs, Leafhoppers, Stinkbugs, Thrips, True Armyworm or Armyworm Species, Webworms, Yellowstriped Armyworm	2.1 to 6.4 fl. oz. (0.033-0.10 lb. ai) per acre	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. To Control Ear-Attacking Pests: Apply Bifen 2 AG Gold-CAL when silking begins and repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section. For Control Of Other Insect Pests: Apply when pests first appear and repeat as necessary but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.
Banks Grass Mite, Carmine Mite, Twospotted Spider Mite	5.12 to 6.4 fl. oz. (0.08-0.10 lb. ai) per acre	Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant. For Twospotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.

- RESTRICTIONS:**
- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated product) per acre per season.
 - Do not apply within one day of harvest.
 - Do not apply within 18 days of harvest for sweet corn that is hand-harvested.
 - Do not graze livestock in treated areas or cut treated crops for feed within 1 day of last application.
 - Use of ultra low volume (ULV) application on corn is prohibited.
 - Do not make aerial or ground applications to corn if heavy rainfall is imminent.
 - Use of Bifen 2 AG Gold-CAL is prohibited in all coastal counties.

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CUCURBITS

Apply as directed using the rates in the table below.

CROP	PEST/RATE	APPLICATION INSTRUCTIONS
<p>Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Gourd, edible (includes hyotan, cucuzza); (<i>Luffa</i> spp.) (includes hechima, Chinese okra), (<i>Momordica</i> spp.) (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars or <i>Cucumis melo</i>) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin (<i>Cucurbita</i> spp.), Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini). Squash, winter (includes butternut squash, calabaza, hubbard squash (<i>C. mixta</i>; <i>C. pepo</i>) (includes acorn squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of <i>Citrullus</i> spp.).</p>	<p>PESTS: Aphids, Armyworms, Cabbage Looper, Corn Earworm, Cucumber Beetles, Cutworms, Grasshoppers Leafhoppers, Melonworms, Pickleworms, Plant Bugs, Rindworms, Squash Bugs, Squash Vine Borer, Stink Bugs, Tobacco Budworm,</p> <p>RATE: 2.6 to 6.4 fl. oz. (0.04 to 0.1 lb. ai) per acre</p> <p>PESTS: Whitefly, Banks Grass Mite, Twospotted spider Mite, Carmine Mite, <i>Lygus</i> spp.</p> <p>RATE: 5.12 to 6.4 fl. oz. (0.08 to 0.1 lb. ai) per acre</p>	<p>Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 gallons per acre with ground equipment.</p> <p>When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>
<p>RESTRICTIONS:</p> <ul style="list-style-type: none"> • Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated product) per acre per season. • Do not make more than two applications after bloom. 		

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- Do not make applications less than 7 days apart.
- Do not apply within 3 days of harvest.

LETTUCE, HEAD

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids, Armyworms, Cabbage Maggot, Corn Earworm, Cucumber Beetles, Cutworms, Diamondback Moth, Flea Beetle, Grasshopper, Imported Cabbageworm, Leafhoppers, Loopers, Salt marsh Caterpillar, Stink Bug spp., Thrips, Tobacco Budworm, Whitefly	2.1 to 6.4 fl. oz. (0.033 to 0.10 lb. ai) per acre	Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment and 5 gallons per acre by air. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.
Lygus spp., Carmine Mite, Twospotted Spider Mite	5.12 to 6.4 fl. oz. (0.08 to 0.10 lb. ai) per acre	
<p>RESTRICTIONS:</p> <ul style="list-style-type: none"> • Do not make applications less than 7 days apart. • A maximum of 0.5 lb. active ingredient may be applied per acre per season. • Do not apply within 7 days of harvest. 		

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LIMA BEAN (GREEN)

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Flea Beetle, Leafhoppers	1.6 to 6.4 fl. oz. (0.025 to 0.10 lb. ai) per acre	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.
Plant Bug, Stink Bugs, Corn Earworm, Loopers, Whitefly	2.1 to 6.4 fl. oz. (0.033 to 0.10 lb. ai) per acre	
Banks Grass Mite, Twospotted Spider Mite, Carmine Mite, Lygus spp.	5.12 to 6.4 fl. oz. (0.08 to 0.10 lb. ai) per acre	
RESTRICTIONS:		
<ul style="list-style-type: none"> • Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated product) per acre per season. • Do not apply within 3 days of harvest. 		

PEPPERS, BELL AND NON-BELL

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids, Armyworms, Corn Earworm, Cucumber Beetle, Cutworms, Flea Beetle, Leafhoppers, Leafminers, Loopers, Pepper Weevil, Stink Bug spp., Tobacco Budworm, Thrips, Whitefly	2.1 to 6.4 fl. oz. (0.033 to 0.1lb. ai) per acre	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum of 10 gallons of finished spray per acre or a minimum of 2 gallons per acre by aircraft.
Lygus spp., Broad Mite, Carmine Mite, Twospotted Spider Mite	5.12 to 6.4 fl. oz. (0.08 to 0.10 lb. ai) per acre	
RESTRICTIONS:		
<ul style="list-style-type: none"> • Do not make applications less than 7 days apart. • Do not apply more than 0.20 pound active ingredient per acre per season. • Do not apply within 7 days of harvest. 		

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