# Restricted Use Pesticide

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.

GROUP

INSECTICIDE

% BY WT.

# BIFEN 2 AG GOLD

## INSECTICIDE/MITICIDE

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For use to control listed insects and mites on artichokes, brassicas, caneberries, canola, cilantro, citrus, coriander, corn, cotton, crambe, cucurbits, dried beans and peas, fruiting vegetables, grapes, head lettuce, hops, leafy brassicas, mayhaw, okra, peanuts, pears, rapeseed, root crops, soybeans, spinach, succulent peas and beans, tobacco, and tuberous and corm vegetables.

For use to control listed insect pests on Ornamentals and Trees\* (including Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms) \*NOT FOR USE IN CALIFORNIA

DO NOT APPLY THIS PRODUCT ON GOLF COURSES AND SOD FARMS IN NASSAU OR SUFFOLK COUNTY, NEW YORK.

ACTIVE	INGREDIENT:	
ACTIVE.		

Bifenthrin: (2 methyl[1,1-biphenyl]-3-yl)methyl 3-	
(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate*	
OTHER INGREDIENTS**:	
TOTAL:	

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

\*\*Contains xylene range aromatic solvents.

This product contains 2 pounds active ingredient per gallon.



This label must be in the possession of the user at the time of application. See inside label booklet for additional precautionary statements.

EPA Reg. No. 83222-1

## **NET CONTENTS: 1 GALLON**



Manufactured For: Direct Ag Source, LLC 30473 260th Street • Eldora, IA 50627



EPA 110712/Rev A

	FIRST AID						
IF SWALLOWED:	<ul> <li>Immediately call a poison control center or doctor.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anyliquid to the person.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>						
IF IN EYES:	<ul> <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 ON SKIN OR Clothing:	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:         • 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 produc contains a petroleum distillate. Vomiting may cause aspiration pneumonia.							
Have the product container or label with you when calling a poison control center or doctor or going for treatment.							
rave the product container or label with you when calling a poison control center or doctor or going for treatment. For information on this product, contact the National Pesticide Information Center, 1-800-858-7378, Monday-Friday, 7:30 AM-3:30 PM PST. You may also contact the National Poison Control Center, 1-800-222-1222, day or injoh, for emergency medical treatment information.							

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

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

## 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 exist, 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.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly
  and change into clean clothing.

## **ENVIRONMENTAL HAZARDS**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment 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 Bifen 2 AG Gold 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.

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

## 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, and greenhouses.

Do not allow people or pets on treated areas until the spray has dried.

# **STORAGE AND DISPOSAL**

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

PESTICIDE STORAGE: D0 NOT ALLOW PRODUCT TO FREEZE. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing container 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. Do not containnate other pesticides, fertilizers, water, food, or feed by storage or disposal.

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

#### CONTAINER HANDLING:

Nonrefillable Container: (five gallons or less) Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank 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 application equipment or a mix tank and drain for 10 seconds after the for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. If recycling is not available, puncture or dispose of in a sanitary landfill or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## **RESISTANCE MANAGEMENT**

Bifen 2 AG Gold contains a Group 3 Insecticide. With repeated use of Group 3 insecticides as the primary method of control in the same field or in successive years, insect/mite populations can develop resistant biotypes. If this occurs, insect/mite biotypes with acquired resistance to Group 3 insecticides may eventually dominate the insect/mite population. This may result in partial or total loss of control of those species by Bifen 2 AG Gold or other Group 3 insecticides.

To delay development of insecticide resistance, the following practices are suggested:

- Base insecticide applications on comprehensive IPM programs. This program should include an insect management program that
  includes cultural and biological control where possible.
- Use good resistance management strategies established for the use area. This may include the use of insecticide rotations or tank mixes with other groups of insecticides and mitticides in an IPM program.
- Always apply Bifen 2 AG Gold at the labeled rates and according to label directions. Do not use less than label rates alone or in tank
  mixtures unless directed otherwise in supplemental labeling supplied by Direct Ag Source, LLC.
- Monitor treated populations in the field for loss of control. If poor performance cannot be attributed to improper application or
  extreme weather conditions, a resistant strain may be present. Immediately consult your local Direct Ag Source, LLC representative or
  agricultural advisor for the best alternative method of control for your area.
- Do not treat seedling plants grown for transplant in greenhouses, shade houses, or field plots.
- Consult your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and/or IPM guidance for the specific site and resistant pest problems.

## **APPLICATION INSTRUCTIONS**

The rate of Bifen 2 AG Gold applied will vary according to pest pressure and timing of application. 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.

Unless otherwise specified for a specific crop, apply when pest population reaches economic (damaging) threshold and repeat as necessary to maintain control. Thorough coverage is essential to achieve control.

In the COMMENTS section of the label for each crop, the application rate when applied by ground and/or air is listed as an amount of spray per acre. In all cases, this refers to finished spray per acre.

## **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.

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 manufacturers, 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 undexirable 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.

For sprinkler irrigation, meter Bifen 2 AG Gold at a continuous uniform rate during the entire irrigation period. To ensure accurate application over the treated area, apply in sufficient volume of water or other diluent. If non-emulsified oil is used as the diluent, use 1 to 2 pints per acre. Maintain continuous agitation of the pesticide supply tank for the duration of the application period. When chemigation systems are used, 0.5 inch per acre of irrigation water is suggested except that for Low Energy Precision Application (LEPA) irrigation, a minimum of 0.75 inch of water per acre is suggested.

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

#### Buffer Zone for Ground Application (ground boom, overhead chemigation, or airblast)

Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, 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, 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, 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 conditions 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.

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 crosswind, 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.

In New York State, this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

## **ROTATIONAL CROPS**

If applying to crops for which bifenthrin tolerances exist, the crops may be rotated at any time. All other crops may be rotated 30 days following the final application of Bifen 2 Ag Gold.

## MIXING INSTRUCTIONS

The spray tank must be clean, thoroughly rinsed, and decontaminated before adding either Bifen 2 AG Gold alone or with tank mix combinations (see Bifen 2 AG Gold in Tank Mixtures section below). If water is used as the carrier, use clean water.

For aerial applications made on brassicas (see **CROPS** section of the label below for full list of approved brassicas), canola, crambe, rapeseed, foliar applications on corn, cucurbits (see **CROPS** section of the label below for full list of approved succurbits), eggplant, grapes, head lettuce, and succulent peas and beans (see **CROPS** section of the label below for full list of approved succulent peas and beans), 1 to 2 quarts of emulsified oil may be substituted for one quart of water in the finished spray. For aerial applications made on cotton, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray. For aerial applications concerned to a chieve control.

Bifen 2 AG Gold Used Alone: When Bifen 2 AG Gold is used alone, add the labeled amount to the spray tank when the tank is half filled with water or other carrier; then add the rest of the water or other carrier (as permitted on this label). Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Bifen 2 AG Gold with Fertilizer: Fill the spray tank approximately one-half full with water and/or liquid fertilizer, add the proper amount of Bifen 2 AG Gold, and then add the rest of the water and/or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.

Perform a jar compatibility test with the appropriate ratio of Bifen 2 AG Gold and fertilizer to ensure the mixture will stay in solution. Maintain constant agitation during mixing and application.

Bifen 2 AG Gold in Tank Mixtures: If a tank mixture is used, perform a compatibility test before actual tank mixing. Test all untried mixtures using proper ratios and mixing sequences of all ingredients to be included in the mixture. Once compatibility is confirmed for the tank mix, fill the tank half full with water or other carrier. Start and continue agitation throughout mixing following conventional mixing order practices. Bifen 2 AG Gold may be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products.

## PREHARVEST INTERVAL

The required days to wait between the last application and harvest are given in () after each crop name.

## CROPS

PEST	DC	ISAGE	COMMENTS
PESI	LB AI/A	FL OZ/A	COMMENTS
Artichoke Plume Moth Cribrate Weevil	0.10	6.4	<b>Ground application:</b> Apply in water in a minimum of 75 gallons per acre as a full cover spray.
			Air application: Apply in water in a minimum of 10 gallons per acre.
Do not apply more than 0.5 I Beneat applications if neede			

#### ARTICHOKE (5)

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## BRASSICAS (7)

LB AI/A         FL 02/A           Head and Stem Brassica Vegetables including:         Aphids Armyworms Corn Earworm Chickets         0.033-0.10         2.1-6.4         Ground application: Apply in water in a ninimu gallons per acre.           Mite flowering broccoli Caulifower         Curumber Beetle Diamondback Moth Flea Beetle Cabbage         0.033-0.10         2.1-6.4         Ground application: Apply in water in a minimu per acre.           Emussils sprouts         Curumber Beetle Cutworms         Curumber Beetle Cutworms         Emulsified oil may be substituted for wate entitled MIXING INSTRUCTIONS for details or oil to use in the spray tank in lieu of water.           Chinese mustard cabbage         LaBhoppers         Cabbageworm         Cabbageworm	CROP	PEST	DOS	AGE	COMMENTS
Vegetables including:     Armyworms       Broccoli     Com Earworm       Chinese Broccoli (gai lon, Chinese Broccoli)     Cucumber Beetle       Brussels sprouts     Cucumber Beetle       Cauliflower     Diamondback Moth       Cauliflower     Diamondback Moth       Cauliflower     Diamondback Moth       Cauliflower     Carbone       Cabbage     Imported       Chinese Cabbage (napa)     Cabbageworm       Chinese mustard cabbage     Leathoppers	GROP	PESI	LB AI/A	FL OZ/A	COMMENTS
(gai choy) Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults) Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted Spider Mite	Vegetables including: Broccoli Chinese Broccoli (gai lon, White flowering broccoli) Brussels sprouts Cauliflower Cavalo broccolo Kohrabi Cabbage Chinese Cabbage (napa)	Armyworms Corn Earworm Crickets Cucumber Beetle Cutworms Diamondback Moth Flea Beetle Ground Beetles Imported Cabbageworm Leafhoppers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults) Banks Grass Mite Lygus spp. Pacific Spider Mite Twospotted Spider			Air application: Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water. See section entitled MIXING INSTRUCTIONS for details on the amount of

Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.
 Do not make more than 5 applications after bloom.
 Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.

#### CANEBERRIES (3)

CROP	PEST	DOS	SAGE	COMMENTS
GRUP	PESI	LB AI/A	FL OZ/A	COMMENTS
Caneberries including: Blackberries	Leafrollers Orange Tortrix	0.05-0.10	3.2-6.4	<b>Ground application:</b> Apply in water in a minimum of 50 gallons per acre.
Bingleberries Dewberries Loganberries Lowberries	Root Weevils			Air application: Apply in water in a minimum of 10 gallons per acre. A total of two applications may be made.
Marionberries Olallieberries Raspberries Youngberries	Spider Mites	0.10	6.4	One application may be made pre-bloom and a second application may be made post bloom.
Do not apply more than 0	2 lb. active ingredient	(12.8 ounces	formulated) n	er acre ner season

Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.

#### CANOLA, CRAMBE, RAPESEED (35)

PEST	DOSA	GE	COMMENTS
PESI	LB AI/A	FL OZ/A	COMMENTS
Aphids Armyworms Cutworms Diamondback Moth Flea Beetles Flea Hoppers Grasshoppers Loopers Lygus Bugs Other Lepidopterous Larvae Plant Bugs Steedpod Weevil Stink Bugs Thrips Whitefly	0.033-0.04	2.1-2.6	Ground application: Apply in water in a minimum of 10 gallons per acre. Air application: Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water. See section entitled MIXING INSTRUCTIONS for details on the amount of oil to use in the spray tank in lieu of water.
<ul> <li>Do not apply more than 0.08 lb. active ingredient (5.12 ounces formulated) per acre per season.</li> <li>Repeat applications if needed to maintain control, but do not make applications less than 14 days apart.</li> </ul>			

#### CHRISTMAS TREES (For use only in Washington and Oregon)

PEST	DOSA	AGE	COMMENTS	
PESI	LB AI/A	FL OZ/A	COMMENTS	
Root Weevil	0.06-0.10	3.9-6.4	Ground application: Apply in water in a minimum of 20 gallons per acre.	
Spruce Spider Mite			Air application: Apply in water in a minimum of 5 gallons per acre.	
			Bifen 2 AG Gold is usually not phytotoxic to Christmas trees. However, make applications to a small representative group of plants to ensure that a particular variety grown under current conditions is not unusually sensitive to Bifen 2 AG Gold.	
			Maintain a minimum of 21 days between applications.	
Do not apply more than 0.1	Do not apply more than 0.1 lb. active inoredient (6.4 ounces formulated) per acre per season.			

- Do not apply more than 0.1 lb. active ingredient (6.4 of
  Do not make more than 3 applications in a crop year.
  Do not make applications through irrigation systems.

#### CILANTRO, CORIANDER (3)

PEST	DOS	AGE	COMMENTS
PESI	LB AI/A	FL OZ/A	COMMENTS
Aphids Beet Armyworm Cabbage Looper Cutworm Flea Beetle Grasshoppers Leafminer Saltmarsh Caterpillar Spotted Cucumber Beetle Thrips Whitefly	0.033-0.1	2.1-6.4	Ground application: Apply in water in a minimum of 10 gallons per acre. Air application: Apply in water in a minimum of 2 gallons per acre. Apply in sufficient water to obtain thorough coverage.
Twospotted Spider Mite	0.08-0.1	5.12-6.4	
<ul> <li>Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.</li> <li>Do not make applications less than 7 days apart.</li> </ul>			

#### CITRUS (Except Florida) (1)\*

PEST	DOS	AGE	0000070
PESI	LB AI/A	FL OZ/A	COMMENTS
Asian Cockroach	0.25-0.50	16-32	Ground application: Apply in water in a minimum of 30 gallons per acre.
Diaprepes Root Weevil (Diaprepes abbreviatus) Fire Ants			Use a handgun or shielded sprayer to apply to individual citrus trees if they are not planted in solid rows.
			Diaprepes root weevil emergence generally occurs in the spring, but weather conditions can prompt a second emergence in the fall. In areas where only a spring emergence is expected, use 32 ounces of Bifen 2 AG Gold. In areas where a second emergence is expected, use 16 ounces of Bifen 2 AG Gold in the early season and 16 ounces of Bifen 2 AG Gold later in the season.
			If the length of control of Bifen 2 AG Gold is not sufficient to cover the emergence of the root weevil, use other pest control measures from State Agricultural Extension Specialists or other local experts.
			*Use in California not permitted unless accompanied by a supplemental label.
<ul> <li>Do not apply through irriga</li> </ul>	tion systems.		

Do not alphy more than 0.5 lb. active ingredient (32 ounces formulated) per acre per year.

Do not apply by air.

### CITRUS (Florida only)(1)

DECT	DOSAGE		COMMENTS
PEST	LB AI/A	FL OZ/A	COMMENTS
Blue Green Citrus Root Weevil	0.25-0.50	16-32	Ground application: Apply in water in a minimum of 40 gallons per acre.
(Pachnaeus opalus) Brown Leaf Notcher (Epicaerus mexicanus)			Greater spray volumes increase uniformity of coverage. Also coverage uniformity may be aided by using a pre- and post-irrigation application.
Diaprepes Root Weevil (Diaprepes abbreviatus)			Use a handgun or shielded sprayer to apply to individual citrus trees if they are not planted in solid rows.
Little Leaf Notcher (Artipus floridanus) Southern Blue Green Citrus Root Weevil (Pachnaeus Litus)			All citrus root weevils have a similar life cycle. They have three immature stages: egg, larva, and pupa. Adult weevils emerge from the soil and lay eggs on host plants above ground, the larvae enter the soil to feed on roots, and the pupae and teneral adult stages are spent below ground. Adults emerge beneath citrus trees throughout the year; it is at this time that Bifen 2 AG
Asian Cockroach Fire Ants	0.1-0.25	6.4-16	Gold applications should be timed. Peak adult emergence varies within and among species and by region. Peak emergence for the blue-green root weevil is normally April and May. Diaprepes adult emergence from the soil appears to be triggered by the onset of regular rainfall events and can have two emergence peaks, in mid-May to mid-July and/or late-August to mid-October. The second peak is variable and may relate to host plant availability. Little leaf notcher has three generations per year. Although there is considerable overlap of generations, adults appear most abundant in April/May, July/August, and October/November.
			For best control of emerging root weevils, apply Bifen 2 Ag Gold to the soil beneath the citrus trees from the trunk to the drip line of the tree.
			Bifen 2 AG Gold protects citrus tree roots from citrus root weevils by forming a barrier which provides contact activity on neonate larvae when they fall to the ground shortly after hatching from eggs which were oviposited in the citrus tree foliage.
			Once application is made, be careful not to disturb the treated soil.
			In areas where only a spring emergence is expected, use 32 ounces of Bifen 2 AG Gold. In areas where a second emergence is expected, use 16 ounces of Bifen 2 AG Gold in the early season and 16 ounces of Bifen 2 AG Gold later in the season.
- Do not opply through irrigat			If the length of control of Bifen 2 AG Gold is not sufficient to cover the emergence of the root weevil, use other pest control measures from State Agricultural Extension Specialists or other local experts.

Do not apply through irrigation systems.
Do not allow any application of Bifen 2 AG Gold to contact fruit or foliage.
Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per year.
Do not apply by air.

#### CONIFER SEED ORCHARDS

(For Use Only in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia)

PEST	DOSAGE		COMMENTS
	LB AI/A	FL OZ/A	COMMENTS
Cone Worms	0.1-0.2	6.4-12.8	Ground application: Apply in water in a minimum of 100-500 gallons per acre.
Seed Bugs Seed Worms			Air application: Apply in water in a minimum of 10 gallons per acre or 0.5 gallon refined vegetable oil per acre.
			Apply in sufficient water to obtain thorough coverage.
			Begin applications 7 days after peak pollen flight and continue on 30-day intervals up to a maximum of 0.6 lb. active per acre per season.

• Do not make more than six applications per season or apply more than 0.6 lb. active ingredient (38.4 ounces formulated) per acre per season.

#### CORN: FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANTING)(30)

PEST	DOSA	AGE	COMMENTS
Corn Rootworm Larvae Northern Southern Western	0.0046 pound active per 1000 linear feet of row	0.30 fluid ounces per 1000 linear feet of row	Ground application: Apply in water in a minimum of 3 gallons per acre. For use on corn at planting, apply a 5- inch to 7-inch T-band over the open seed furrow. Center the spray nozzle over the row behind the planter shoe in front of the press wheel.
Army Cutworm Cutworm Species Grubs Seedcorn Beetle Seedcorn Maggot True Armyworm or Armyworm Species Wireworms	0.0023 to 0.0046 pound active per 1000 linear feet of row	0.15 to 0.30 fluid ounces per 1000 linear feet of row	In-furrow pop-up fertilizers may be used alone or in tank mixtures with Bifen 2 AG Gold. See the section entitled <b>MIXING INSTRUCTIONS, Bifen 2 AG Gold with Fertilizer</b> for additional instructions and precautions when mixing with fertilizers.

• Do not apply to soil where there is greater than 30% cover of crop residue remaining.

· 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 lb. active ingredient (6.4 ounces formulated) per acre per season as an at-plant application.

Row Spacings (inches) <sup>1</sup>	40	38	36	30
Bifen 2 AG Gold (pounds ai per acre)	0.060	0.064	0.069	0.080
Bifen 2 AG Gold (formulated ounces per acre)	3.9	4.1	4.4	5.12

<sup>1</sup>Use this table to determine the Bifen 2 AG Gold needs per acre.

#### CORN: FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (PRE & PPI)

PEST	DOSAGE		COMMENTS
FEST	LB AI/A	FL OZ/A	COMMENTS
Armyworm spp. Black Cutworm Seedcorn Maggot Stalkborer White Grub Wireworm	0.047 to 0.062 Pre-Plant Incorporated (PPI)	3 to 4 fl. oz. Pre-Plant Incorporated (PPI)	Ground application: Apply in water in a minimum of 3 gallons per acre. Use the labeled dosage as a preplant incorporated treatment either alone or in tank mix combination with registered preplant incorporated herbicides. Incorporate Bifen 2 AG Gold to the intended planting depth, but no deeper than 3 inches.
Black Cutworm Armyworm spp. Stalkborer	0.040 lb/ai per acre Pre-emergence (PRE)	2.56 fl. oz. per acre Pre-emergence (PRE)	The 3 to 4 oz. rate must be applied as PPI and can be tank mixed and applied with PPI herbicides. The 2.56 oz. rate may be applied PRE and can be tank mixed and applied with PRE herbicides.

#### CORN: FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR) (30)

PEST	DO	SAGE	000005070
PESI	LB AI/A	FL OZ/A	COMMENTS
Aphids Army cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbugs Japanese Beetle Adult Southern Armyworm Southern Corn Leaf Beetle Southern Armyworm Stark Bugs Tranished Plant Bug True Armyworm or Armyworm Species Webworms	0.033-0.10	2.1-6.4	Ground application: Apply in water in a minimum of 10 gallons per acre except see specific comment below for TX, NM, OK, and AZ mite control. Air application: Apply in water in a minimum of 2 to 5 gallons per acre except see specific comment below for TX, NM, OK, and AZ mite control. In all states, insect control will be improved by increasing the finished spray per acre to 5 gallons. In Texas, New Mexico, Oklahoma, and Arizona, use a minimum of 10 gallons of water per acre by ground and 5 gallons of water per acre by ground and 5 gallons of water per acre by ground and 5 gallons of water per acre by ground and 5 gallons of water per acre by ground and 5 gallons of water per acre by ground and 5 gallons of water see section entitled MIXING INSTRUCTIONS for details on the amount of oil to use in the spray tank in lieu of water. Make applications to Bifen 2 AG Gold as necessary to maintain control being careful not to exceed reapplication intervals or maximum dosage rates specified in this section. For pests which attack the ear, apply just before silking. For com borer control, make application just before or at egg hatch. For mite control, apply when colonies first form prior to leaf damage and before they disperse into the canopy (for Banks Grass Mite-before dispersal into the upper 2/3 of the plant). Use thigher rates of Bifen 2 AG Gold when pest pressure is severe or crop is under stress from drought and/or heat. When these conditions exist, tank mixtures with dimethoate have shown good control.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	(

#### CORN: FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR) (30) (continued)

- Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season including PRE and PPI, at-planting, plus foliar applications.
- 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 on corn is prohibited in all coastal counties.

#### CORN: SWEET CORN, SWEET CORN GROWN FOR SEED (AT PLANTING) (30)

PEST			COMMENTS	
	LB AI	FL OZ	COMIMENTS	
	0.0046 pound	0.30 fluid	Ground application: Apply in water in a minimum of 3 gallons per acre.	
	active per 1000	ounces per	For use on corn at planting, apply in a 5-inch to 7-inch T-band over the	
	linear feet	1000 linear feet	open seed furrow. Center the spray nozzle over the row behind the planter	
	of row	of row	shoe in front of the press wheel.	
Cutworm Species p	0.0023 to 0.0046	0.15 to 0.30	In-furrow pop-up fertilizers may be used alone or in tank mixtures with	
	pound active per	fluid ounces per	Bifen 2 AG Gold. See the section entitled <b>MIXING INSTRUCTIONS, Bifen 2</b>	
	1000 linear feet	1000 linear feet	<b>AG Gold with Fertilizer</b> for additional instructions and precautions when	
	of row	of row	mixing with fertilizers.	

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 lb. active ingredient (6.4 ounces formulated) per acre per season as an at-plant application.

Row Spacings (inches) <sup>1</sup>	40	38	36	30
Bifen 2 AG Gold (pounds ai per acre)	0.060	0.064	0.069	0.080
Bifen 2 AG Gold (formulated ounces per acre)	3.9	4.1	4.4	5.12

<sup>1</sup>Use this table to determine the Bifen 2 AG Gold needs per acre.

#### CORN: SWEET CORN. SWEET CORN GROWN FOR SEED (FOLIAR) (1)

PEST	DOSA	GE	COMMENTS
PESI	LB AI/A	FL OZ/A	COMMENTS
Aphids	0.033-0.10	2.1-6.4	Ground application: Apply in water in a minimum of 10 gallons per acre.
Army Cutworm			Air application: Apply in water in a minimum of 2 gallons per acre.
Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer			Emulsified oil may be substituted for water. See section entitled <b>MIXING</b> <b>INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.
Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult			Make applications of Bifen 2 AG Gold as necessary to maintain control being careful not exceed reapplication intervals or maximum dosage rates specified in this section.
Cutworm Species			For pests which attack the ear, apply just before silking.
European Corn Borer Fall Armyworm			For corn borer control, make application just before or at egg hatch.
Fair Annyworm Flea Beetle Grasshoppers Greenbugs Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southeren Corn Borer Stink Bugs Tarnished Plant Bug True Armyworm or Armyworm Species Websorms Western Bean Cutworm Yellowstriped Armyworm			For mite control, apply when colonies first form prior to leaf damage and before they disperse into the canopy (for Banks Grass Mite-before dispersal into the upper 2/3 of the plant). Use higher rates of Bifen 2 AG Gold when pest pressure is severe or crop is under stress from drought and/or heat. When these conditions exist, tank mixtures with dimethoate have shown acceptable control.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	

· Do not graze livestock in treated areas or cut treated crops for feed within 1 day 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 on corn is prohibited in all coastal counties.

## COTTON (14)

PEST	DOSA	AGE	COMMENTS
	LB AI/A	FL OZ/A	GOWIMENTS
European Corn Borer	0.02-0.10	1.3-6.4	Ground application: Apply in water in a minimum of 5 gallons per acre.
Soybean (Banded) Thrips Tobacco Thrips			Air Application: Apply in water in a minimum of 1 gallon per acre.
Boll Weevil Bollworm	0.04-0.10	2.6-6.4	Emulsified oil may be substituted for water. See section entitled <b>MIXING</b> <b>INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.
Cabbage Looper Cotton Aphid Cotton Fleahopper			<b>ULV Application:</b> Apply in a minimum of 1 quart per acre using refined vegetable oil with aircraft calibrated to give adequate coverage.
Cotton Leafperforator Cutworms Fall Armyworm			Make applications of Bifen 2 AG Gold as necessary to maintain control being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.
Plant Bugs Saltmarsh Caterpillar			To Control Boll Weevil: Apply Bifen 2 AG Gold at 3- to 4-day intervals until pest populations are reduced below economic threshold levels.
Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly Yellowstriped Armyworm			To Control Mites and Aphids: Apply when pests first appear. Repeat as necessary to maintain control without exceeding maximum application rates and reapplication intervals. Use higher rates when an economic threshold has been established.
Beet Armyworm Carmine Spider Mite Lygus spp. Pink Bollworm Twospotted Spider Mite	0.06-0.10	3.8-6.4	

• Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.

· 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 combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include Ambush®, Ammo®, Asana® XL, Baythroid®, Capture®, Danitol®, Karate®, Mustang®, and Scout X-TRA®.

## **CUCURBITS (3)**

CROP	PEST	DOS	AGE	COMMENTS
Chor	FLOT	LB AI/A	FL OZ/A	COMMENTS
Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron Melon Cucumber Gherkin Edible Gourd, [(includes hyotan, cucuzza), Luffa spp. (includes hechima, Chinese okra)] Momordica spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber) Muskmelon (hybrids and/or cultivars of Cucumis melo) (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)	Aphids Armyworms Cabbage Looper Corn Earworm Cucumber Beetles Cutworms Grasshoppers Leafhoppers Melonworms Plant Bugs RindWorms Squash Bugs Plant Bugs Squash Vine Borer Stink Bugs Tobacco Budworm	0.04-0.10	2.6-6.4	Ground application: Apply in water in a minimum of 20 gallons per acre Air application: Apply in water in a minimum of 5 gallons per acre. Emulsified oil may be substituted for water. See section entitled MIXING INSTRUCTIONS for details on the amount of oil to use in the spray tank in lieu of water.
Pumpkin (Cucurbita spp.) Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Squash, winter (includes butternut squash, calabaza, hubbard squash (C. mixta; C. pepo), (includes acorn squash, spaghetti squash)) Watermeion (includes hybrids and/or varieties of Citrullus spp.) Do not apply more than 0.3 lb. active ingred	Whitefly Banks Grass Mite Twospotted Spider Mite Carmine Mite Lygus spp.	0.08-0.10	5.12-6.4	

• Do not make more than two applications after bloom.

Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.

#### DRIED BEANS AND PEAS (14)

CROP	PEST	DOS	AGE	COMMENTS
Chur	FEST	LB AI/A	FL OZ/A	COMMENTS
Dried cultivars of Bean (Lupinus spp.) Grain Lupin	Banks Grass Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	Ground application: Apply in water in a minimum of 10 gallons per acre.
Sweet Lupin White Lupin White Sweet Lupin	Carmine Mite Lygus spp.			<b>Air application:</b> Apply in water in a minimum of 2 gallons per acre.
Bean (Phase Lus spp.) Field Bean Kidney Bean Lima Bean (dry)	Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers	0.025-0.10	1.6-6.4	Emulsified oil may be substituted for water. See section entitled <b>MIXING</b> <b>INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in
Initia Cean (city) Navy Bean Pinto Bean Tepary Bean Bean (Vigna spp.) Adzuki Bean Blackeyed Pea Catjang Cowpea Cowpea Corwder Pea Moth Bean Mung Bean Rice Bean Southern Pea Urd Bean Broad bean (dry) Chickpeas Guar Lablab Bean Lentils Pea (Piscum spp.) Field Pea Pigeon Pea	Aphids Beet Armyworm Fall Armyworm Southern Armyworm Bean Leaf Beetle Cucumber Beetles Japanese Beetle Adult Sap Beetle Plant Bug Stink Bugs Tarnished Plant Bug Alfalfa Caterpillar Cloverworm European Corn Borer Cutvorms Western Bean Cutworm Loopers Corn Earworm Loopers Corn Adults Thrips Webworms Pea Weevil Pea Ueevil Pea Leaf Weevil Whitefly Imported Cabbageworm Saltmarsh Caterpillar Tobacco Budworm Leafniner	0.033-0.10	2.1-6.4	lieu of water. Thorough coverage is essential to achieve control.

formulated product) to beans per acre per season. • Do not make applications less than 7 days apart.

#### FRUITING VEGETABLES

CBOP	PEST	DOS	AGE	000005070
GRUP	PESI	LB AI/A	FL OZ/A	COMMENTS
Eggplant Groundcherry Pepino Pepper (Bell & Non-Bell) (7)	Armyworms (including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm) Cabbage Loopers Colorado Potato Beetle Corn Earworm Cucumber Beetles European Corn Borer Flea Beetles Leafminers Loopers Pepper weevil Plant Bugs Stink Bugs Thrips Tomato Hornworm Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitetly	0.033-0.10	2.1-6.4	Ground application: Apply in water in a minimum of 10 gallons per acre. Air application: Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water. See section entitled MIXING INSTRUCTIONS for details on the amount of oil to use in the spray tank in lieu of water. Thorough coverage is essential to achieve control.
	Banks Grass Mite Broad Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	
	terval, do not make applications less b. active ingredient (12.8 ounces form			

(continued)

#### FRUITING VEGETABLES (continued)

CROP	PEST			COMMENTS
	r Loi	LB AI/A	FL OZ/A	GUMMENTS
Tomatillo (1)	Aphids         Armyworms (including Beet         Armyworm, Fall Armyworm,         Southern Yellowstriped Armyworm)         Bean Leaf Beetle         Cabbageworms         Carmine Mite         Cloverworm         Corn Rootworm         Corn Rootworm         Cucumber Beetle         Cutvorms         Diamondback Moth         European Corn Borer         Flea Beetles         Flea Hoppers         Grasshoppers         Japanese Beetle (Aduit)         Leafhoppers         Loopers         Lygus spp.         Melonworms         Pea Weevil         Pea Keevil         Pickleworms         Plant Bugs         Rindworms         Salt Marsh Caterpillar         Sap Beetle         Seedpod Weevil         Squash Bugs         Stink Bug spp.         Tobacco Budworm         Tarnished Plant Bug         Thrips         Whitefly	0.033-0.08	5.12-6.4	Ground application: Apply in water in a minimum of 15 gallons per acre. Air application: Apply in water in a minimum of 3 gallons per acre.

Do not make more than 4 applications per season.

### GRAPES (30)

PEST	DOSAGE		COMMENTS	
PESI	LB AI/A	FL OZ/A	COMMENTS	
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05-0.10	3.2-6.4	Ground application: Apply in water in a minimum of 25 gallons per acre. Air application: Apply in water in a minimum of 10 gallons per acre.	
Black Vine Weevil Glassywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	When pest pressure is moderate to severe, use the higher rate. Emulsified oil may be substituted for water. See section entitled <b>MIXING</b> <b>INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.	

• Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season.

#### HOPS (14)

PEST	DOSAGE		COMMENTS			
PESI	LB AI/A	FL OZ/A	GOWIMENTS			
Aphids Armyworms Cutworms Leafrollers Loopers	0.06-0.10	3.8-6.4	Ground application: Apply in water in a minimum of 100-150 gallons per acre in early season; 200-250 gallons per acre late season. Air application: Apply in water in a minimum of 10 gallons per acre. Make a directed spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant to control root weevil.			
Root Weevils	0.05-0.10	3.2-6.4				
Twospotted Spider Mite	0.10	6.4	]			
Do not apply more than (	Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per application.					

• Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season.

• To maintain a proper spray interval, do not make applications less than 21 days apart.

• Use of ultra low volume (ULV) application on hops is prohibited.

#### LEAFY BRASSICAS AND \*TURNIP GREENS (7)

CROP	PEST	DOS	AGE	COMMENTS
onor	FLOT	LB AI/A	FL OZ/A	COMMENTS
Broccoli Raab Bok Choy	Aphids Armyworms	0.033-0.10	2.1-6.4	<b>Ground application:</b> Apply in water in a minimum of 10 gallons per acre.
Kale Mizuna Mustard Greens	Corn Earworm Crickets Cucumber Beetles			Air application: Apply in water in a minimum of 2 gallons per acre.
Mustard Spinach Rustard Spinach Rape Greens Turnip Greens*	Cutomber Beeues Cutworms Diamondback Moth Flea Beetles Grasshoppers Ground Beetles Imported Cabbageworm Japanese Beetle (Adutt) Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (adutts)			Emulsified oil may be substituted for water. See section entitled <b>MIXING</b> <b>INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water. Thorough coverage is essential to achieve control. * Not for use in California.
	Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite Lygus spp.	0.08-0.10	5.12-6.4	-
	active ingredient (25.6 ounces form to maintain control, but do not make			apart.

## LETTUCE, HEAD (7)

DECT	DOSA	GE	COMMENTS
PEST	LB AI/A	FL OZ/A	COMMENTS
Aphids Armyworms Corn Earworm Cucumber Beetles Cutvorms Diamondback Moth Flea Beetle Imported Cabbageworm Leafhoppers Loopers Sait Marsh Caterpillar Stink Bug spp. Tobacco Budworm Whitefly	0.033-0.10	2.1-6.4	Ground application: Apply in water in a minimum of 15 gallons per acre. Air application: Apply in water in a minimum of 5 gallons per acre. Emulsified oil may be substituted for water. See section entitled MIXING INSTRUCTIONS for details on the amount of oil to use in the spray tank in lieu of water.
Carmine Mite Lygus spp. Twospotted Spider Mite	0.08-0.10	5.12-6.4	
To maintain a proper spra			s less than 7 days apart.

• Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.

#### MAYHAW (30)\*

PEST	DOS	AGE	COMMENTS	
PESI	LB AI/A	FL OZ/A	COMINENTS	
Plum Curculio	0.08 -0.10	5.12-6.4	Ground application: Apply in water in a minimum of 28 gallons of finished spray per acre.	
			Air application: Apply in water in a minimum of 2 gallons per acre.	
			Apply in sufficient water to obtain uniform coverage as needed.	

• Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.

• To maintain a proper spray interval, do not make applications less than 7 days apart.

• \*Not registered for use in California unless accompanied by a supplemental label.

## 0KRA (7)

PEST	DOSAGE		COMMENTS	
PESI	LB AI/A	FL OZ/A	GOMINIENTS	
Aphids Armyworms Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Japanese Beetle (Adult) Leafminers Loopers Stink Bugs Thrips Whitefly	0.033 - 0.10	2.1 - 6.4	Ground application: Apply in water in a minimum of 10 gallons of finished spray per acre. Air application: Apply in water in a minimum of 2 gallons per acre. Apply in sufficient water to obtain uniform coverage as needed.	
Broad Mite Carmine Mite Lygus spp. Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4		
• To maintain a proper spra				

Do not apply more than 0.20 lb. active ingredient (12.8 ounces formulated) per acre per season.

#### PEANUT (14)\*

PEST	DOSA	AGE	COMMENTS
PESI	LB AI/A	FL OZ/A	COMIMENTS
Beet Armyworm Corn Earworm Cutworm species Fall Armyworm Grasshoppers Green Cloverworm Lesser Cornstalk Borer Loopers Rednecked Peanut Worm Southern Corn Rootworm Stink Bugs Threecomered Alfalfa Hopper Velivetbean Caterpilar Yellowstriped Armyworm	0.033 -0.1	2.1 - 6.4	Ground application: Apply in water in a minimum of 10 gallons of finished spray per acre. Air application: Apply in water in a minimum of 2 gallons per acre. Apply in sufficient water to obtain uniform coverage as needed.
Aphids Spider Mites Thrips Whitefly	0.06 - 0.1	3.8 - 6.4	

#### PEANUT (14)\* (continued)

- Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 14 days apart.
- Do not feed immature plants and peanut hay to livestock.
- \*NOT FOR USE IN CALIFORNIA.

### PEARS (14)

PEST	DOSA	AGE	COMMENTS		
PESI	LB AI/A	FL OZ/A	COMIMENTS		
Aphids Codling Moth	0.04 - 0.2	2.6 - 12.8	<b>Ground application:</b> Apply in water in a minimum of 200 gallons per acre (dilute) and 50 gallons per acre (concentrate).		
Cutworms Green Fruitworm Leafnoppers Leafnollers Lygus spp. Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs Tarnished Plant Bugs			<b>Air Application:</b> Apply in water in a minimum of 10 gallons per acre by air.		
Twospotted Spider Mite Yellow Mite	0.06 - 0.2	3.8 - 12.8			
European Red Mite	0.08 - 0.2	5.12 - 12.8			
Do not apply more than 0 formulated) pound active	per acre applied af	ter petal fall.	rmulated) per acre per season with no more than 0.45 (28.8 ounces		

· To maintain a proper spray interval, do not make applications less than 30 days apart.

• Do not graze livestock in treated orchards or cut treated cover crops for feed.

#### **ROOT CROPS (except Sugar Beets)**

CROP	PEST	DOSAGE		COMMENTS
GRUP	FEOI	LB AI/A	FL OZ/A	COMMENTS
Burdock, edible Carrot Celeriac	Aphids Beet Armyworm Celery Leaftier	0.08 - 0.10	5.12 - 6.4	Ground application: Apply in water in a minimum of 25 gallons of finished spray per acre. Air application: Apply in water in a minimum of 2
Chervil, Turnip rooted Chicory	Corn Earworm Cross-Striped			gallons per acre.
Ginseng Horseradish Parsley, Turnip rooted Parsnip Radish Radish, Oriental Rutabaga Salsify Salsify, Black Salsify, Spanish Skirret Turnip (21)	Cabbageworm Cabbageworm Cutworm species Diamondback Moth European Corn Borer Fall Armyworm Fire Ants Flea Beetles Green Cloverworm Hornworms Imported Cabbageworm Loopers Southern Armyworm Spider Mites Tobacco Budworm Velvetbean Caterpillar Whitefly Yellowstriped			Apply in sufficient water to obtain uniform coverage as needed.
Do not apply more the second sec	Armyworm han 0.5 lb. active ingredie	ent (32 ounces form	l Iulated) per acre i	per season.
	r spray interval, do not m		· · · ·	1
Garden Beet (1)	Aphids Fire Ants	0.08 - 0.10	5.12 - 6.4	<b>Ground application:</b> Apply in water in a minimum of 25 gallons of finished spray per acre.
	Flea Beetles Lepidopterous Larvae			<b>Air application:</b> Apply in water in a minimum of 2 gallons per acre.
	Spider Mites Whitefly			Apply in sufficient water to obtain uniform coverage as needed.

#### SOYBEANS (18)

PEST	DOSAGE		COMMENTS		
PESI	LB AI/A	FL OZ/A	COMMENTS		
Alfalfa Caterpillar	0.033 - 0.10	2.1 - 6.4	Ground application: Apply in water in a minimum of 10 gallons per acre.		
Aphids			Air application: Apply in water in a minimum of 2 gallons per acre.		
Aster Leafhopper					
Bean Leaf Beetle			*Pyrethroid resistance is common for Beet Armyworm and Tobaco		
Beet Armyworm*			Budworm. Consult your local extension specialist, certified crop advise		
Cloverworm			and/or manufacturer for insecticide resistance management and/or IPI		
Corn Earworm			guidance for the specific site and resistant pest problems.		
Corn Rootworm Adult					
Cucumber Beetles Cutworms					
European Corn Borer					
Fall Armyworm					
Flea Beetle					
Grasshoppers					
Imported Cabbageworm					
Japanese Beetle Adult					
Leafhoppers					
Leafminers					
Loopers					
Mexican Bean Beetle Adult					
Pea Leaf Weevil					
Pea Weevil					
Plant Bug					
Saltmarsh Caterpillar					
Sap Beetle					
Southern Armyworm					
Soybean Aphid					
Stink Bugs					
Tarnished Plant Bug					
Thrips Tobacco Budworm*					
Webworms					
Western Bean Cutworm					
Whitefly					
Yellowstriped Armyworm					
Lyqus spp.	0.08 - 0.10	5.12 - 6.4	1		
Whitefly	0.00 - 0.10	0.12 0.4			
Twospotted Spider Mite					

• Do not apply more than 0.3 lb. active ingredient (12.8 ounces formulated) per acre per season.

## SPINACH (40)

PEST	DOSA	GE	COMMENTS
PESI	LB AI/A	FL OZ/A	COMMENTS
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Peepper Weevil Thrips Tomato Hornworm Tomato Pinworm Whitefly	0.033-0.10	2.1-6.4	<b>Ground application:</b> Apply in water in a minimum of 10 gallons per acre. <b>Air application:</b> Apply in water in a minimum of 5 gallons per acre. For whitefly and fire ant control either at planting or as a foliar treatment, apply up to 6.4 oz. (0.1 lb. active) per acre being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.
Banks Grass Mite Broad Mite Carmine Mite Fire Ants Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	
<ul> <li>To maintain a proper spra</li> <li>Do not apply more than 0</li> </ul>			less than 7 days apart. formulated) per acre per season.

#### SUCCULENT PEAS AND BEANS (3)

0000	DEGT	DOSA	AGE	COMMENTS
CROP	PEST	LB AI/A	FL OZ/A	COMMENTS
<b>Pea</b> (Pisum spp.) Dwarf Pea Edible-pod Pea English Pea	Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers	0.025-0.10	1.6-6.4	Ground application: Apply in water in a minimum of 10 gallons per acre. Air application: Apply in water in a minimum of 2 gallons per acre.
Garden Pea Green Pea Snow Pea Sugar Snap Pea Pigeon Pea Bean (Phaseolus spp.) Broadbean (succulent) Lima bean (green) Runner bean Wax bean Bean (Vigna spp.) Asparagus Bean Blackeyed Pea Chinese Longbean Cowpea Moth Bean Southern Pea Yardlong Bean Jackbean Soybean (immature seed) Sword Bean	Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Rootworm Adult Cucumber Beetle Cutworms European Corn Borer Fail Armyworm Japanese Beetle Adult Loopers Pea Leaf Weevil Pea Weevil Pea Weevil Peat Weevil Peat Weevil Peat Weevil Peat Weevil Pant Bugs Sap Beetle Southern Armyworm Stink Bugs Tarnished Plant Bug Tarnished Plant Bug Thrips Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm Banks Grass Mite	0.033-0.10	5.12-6.4	Emulsified oil may be substituted for water. See section entitled <b>MIXING INSTRUCTIONS</b> for details on amount of oil to use in the spray tank.
	Carmine Mite Lygus spp. Twospotted Spider Mite			
· Do not apply more the	an 0.2 lb. active ingredient	t (12.8 ounces formu	lated product) pe	r acre per season.

#### TOBACCO

PEST	DOSAGE		COMMENTS				
PESI	LB AI/A FL OZ/A		COMMENTS				
Armyworm spp. Cutworm spp. Mole Crickets Stalkborers Tobacco Flea Beetle	0.0625-0.10	4.0-6.4	Pre-Transplant Soil Applications: Apply 0.0625 - 0.1 lb. active ingredient per acre in a minimum of 10 gallons per acre to control soil pests. Use of suitable equipment to incorporate into top 4" of the soil is required to control below- ground pests. At-Transplant Water Treatment Application: Apply 0.0625 - 0.1 lb. active				
(larvae) White Grubs Wireworms			ingredient per acre in a water treatment application volume of 10-200 gallons per acre.				
			May be tank mixed with Command®, Spartan®, and other herbicides approved for tobacco use.				
Aphid spp. Armyworm spp. Flea Beetle (Adult)	0.04-0.10	2.56-6.4	Foliar Applications: Apply 0.04 - 0.1 lb. active ingredient per acre foliar application up to and including layby in a minimum of 10 gallons per acre.				
riez Beeter (kulti) Chinch bugs Stink bugs Japanese Beetles Grasshoppers Cutworm spp. Tarnished Plant Bugs Green Bugs Thrips Whitefly			May be tank mixed with Command, Spartan, and other herbicides approved for tobacco use.				
Spider Mites Lygus spp.	0.10	6.4					

· For all applications, do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.

· Do not apply later than layby.

#### TREE NUTS CROPS (21-Pecans) (7-All Other Nut Crops)

Tree Nut Crops including: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, Pistachio, and Walnut (Black & English)

DECT	DOSAGE		COMMENTS		
PEST	LB AI/A	FL OZ/A	COMMENTS		
Black Pecan Aphid Codling Moth Filbert Worm Hickory Shuckworm Leaffooted Bugs Navel Orangeworm Oblique Banded Leafroller Peach Ieaf Casebearer Pecan Nut Casebearer Pecan Nut Casebearer Pecan Nut Casebearer Pecan Phylloxera Phant Bugs Stink Bugs Walnut Aphid Yellow Pecan Aphid	0.052-0.20	3.2-12.8	Ground application: Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage. Air application: Apply in a minimum of 10 gallons of finished spray per acre.		
European Red Mite Spider Mites	0.08-0.20	5.1-12.8			
Fire Ants Walnut Husk Fly	0.1-0.20	6.4-12.8			
Minimum snrav intervals	Annly Bifen 2 AG G	old as needed to	maintain control, but do not, apply at intervals sooner than 15 days		

Minimum spray intervals: Apply Bifen 2 AG Gold as needed to maintain control, but do not apply at intervals sooner than 15 days.
 Observe a 21-day Pre-Harvest Interval (PHI) for Pecans and a 7-day Pre-Harvest Interval (PHI) for all other registered tree nut crops.

Observe a 21-day Pre-harvest interval (Phi) for Pecaris and a 7-day Pre-harvest interval (Phi) for an other registered tree hut crop
 Do not exceed 0.2 lb. active ingredient per acre per application; do not exceed 0.50 lb. active ingredient per acre per season.

Do not graze livestock in treated orchards or cut treated cover crops for feed.

#### TUBEROUS AND CORM VEGETABLES (21)

CROP	PEST	DOSA	AGE	COMMENTS		
UNUP	PEOI	LB AI/A FL OZ/A		COMMENTS		
Arracacha Arrowroot	Corn Wireworm Tobacco Wireworm	0.30 (at-plant)	19.2 (at-plant)	In-Furrow planting time treatment: Bifen 2 AG Gold may be applied as an in-furrow planting time treatment		
Potato Chinese Artichoke Jerusalem Artichoke Edible Canna Cassava (bitter & sweet) Chayote (root) Chufa Dasheen (taro) Ginger Leren Potato	Japanese Beetle Grubs June Beetle Southern Potato	0.05-0.15 (layby)	3.2-9.6 (layby)	for the control of wireworms, rootworms, and white grubs. Apply Bifen 2 AG Gold at the rate of 0.3 lb. active ingredient per acre as an in-furrow spray or T-band spray at planting time.		
	Wireworm Banded Cucumber Beetle Black Flea Beetle Cucumber Beetle Rootworms Sweetpotato Flea Beetle	0.033-0.10 (foliar)	2.1-6.4 (foliar)	Lay-By treatment: Bifen 2 AG Gold may be applied as a layby treatment for the control of wireworms, rootworms and white grubs. Apply Bifen 2AG Gold to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area. Apply Bifen 2 AG Gold as a banded spray over the row at a rate of 0.05 -0.15 lb. active ingredient per acre (3.2 - 9.6 ounces formulated) in 10 gallons per acre of spray.		
Sweet Potato Tanier Turmeric Yam bean True yam	Sweetpotato Weevil Whitefringed Beetle White Grub Sugarcane Beetle			Foliar spray: Bifen 2 AG Gold may be applied as a foliar spray for the control of the adult life stages of flea beetles, click beetles (wireworms), cucumber beetles (rootworms), whitefringed beetles and May/June beetles (white grubs). Apply Bifen 2 AG Gold at the rate of 0.033 to 0.10 lb. active ingredient per acre (2.1 to 6.4 ounces formulated) in 10 gallons of spray by ground and 3 gallons of spray by air.		
<ul> <li>For foliar applications, do not make more than 2 foliar applications per season and do not make application less than 21 days apart.</li> <li>Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season, including soil applications.</li> </ul>						

## **APPLICATIONS INSTRUCTIONS – ORNAMENTALS\***

\*NOT FOR USE IN CALIFORNIA TO CONTROL LISTED INSECT PESTS ON ORNAMENTALS AND TREES (INCLUDING FIELD AND CONTAINER GROWN NURSERY STOCK, CHRISTMAS TREES, INTERIORSCAPES AND PLANTSCAPES, LAWNS, TREES AND SHRUBS, AND ON GOLF COURSES AND SOD FARMS)

For use on plants intended for aesthetic purposes or climatic modifications and being grown in interior plantscapes and on outdoor ornamentals, Christmas trees, nurseries, lawns, sod farms, and golf courses.

## **USE INSTRUCTIONS**

Bifen 2 AG Gold mixes with water and other aqueous carriers to control a broad assortment of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes, including hotels, shopping malls, office buildings, etc. and outdoor plantscapes such as, but not limited to, nurseries, residential dwellings, parks, institutional buildings, recreational areas, athletic fields, golf courses, sod farms, and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

Bifen 2 AG Gold may be tank mixed with other products including insect growth regulators. When tank mixing Bifen 2 AG Gold with other products, observe all precautions and limitations on each separate product label. The addition of spreader stickers is not necessary. The physical compatibility of Bifen 2 AG Gold may vary with different sources of pesticide products and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar) using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

The following procedure is recommended for preparation of a new tank mix, unless specified otherwise in label directions:

- 1. Add wettable powders to tank water
- 2. Agitate
- 3. Add fluids and flowables
- 4. Agitate
- 5. Add emulsifiable concentrates
- 6. Agitate

If a mixture is found to be incompatible following the order of addition, try reversing the order of addition or increase the volume of water. Note: If the tank mixture is found to be compatible after increasing the amount of water, then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight. When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation to keep the mixture in solution.

## **APPLICATION INSTRUCTIONS**

#### TRUNK SPRAYS TO ORNAMENTAL TREES (including Christmas trees)

For Control of Bark Beetles and Boring Beetles Refer to the table below. Application rates and timing differ according to the target pest and other factors specific to each local situation. Consult your local State Extension Specialist or other qualified expert for recommendations.

Note: Do not apply more than 12.8 fl. oz. (0.2 lbs. Al) per acre of this product to trees. Repeat application may be necessary if reinfestation is likely.

PEST	DOSAGE	SPRAY VOLUME	COMMENTS
<b>Dandroctonus bark beetles</b> such as mountain pine beetle, southern pine beetle, western pine beetle, and black turpentine beetle	16 -32 fl. oz. per 100 gallons (0.25 – 0.5 lb. Al per 100 gallons)	Use 1-4 gallons of finished spray per tree.	Make applications to the trunk of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestation. Apply spray directly to the main trunk from the base of
Engraver beetle (lps spp.)	16 – 32 fl. oz. per 100 gallons (0.25 – 0.5 lb. Al per 100 gallons)	Use 10-14 gallons of finished spray per tree.	the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet. Make applications of a spray mixture to the trunk, scaffolding, and limbs of the tree with a hydraulic sprayer
Other bark beetles such as ambrosia beetles, elm bark beetles, and metallic wood borers such as emerald ash borer.	16 – 32 fl. oz. per 100 gallons (0.25 – 0.5 lb. Al per 100 gallons)	Use 2-5 gallons of finished spray per tree.	in the early spring or prior to adult beetle flight and tree infestations. Spray until the bark is thoroughly wet.
Clearwing moth borers such as ash borer, banded ash clearwing, dogwood borer, lesser peachtree borer, lilac borer, oak borer, peachtree borer, rhododendron borer	6.4 – 12.8 fl. oz. per 100 gallons (0.1 – 0.2 lb. Al per 100 gallons)	Use 1-4 gallons of finished spray per tree.	Apply to the branches and trunks prior to adult emergence. Spray until the bark is thoroughly wet. For maximum residual control, use highest recommended rate.
<b>Coleopteran borers</b> such as bronze birch borer, flatheaded apple tree borer			

#### Treatment of Infested Trees to Control Emerging Brood

Make applications of a spray mixture containing 2.0 pints of Bifen 2 AG Gold per 100 gallons of water to trees that still have beetles in the bark. Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. Al (12.8 fl. oz.) of this product to trees per acre.

Trees on which all needles have turned brown generally have been vacated and should not be sprayed unless infestation is confirmed. To confirm an infestation, scrape off the outer bark to determine if trees are still infested. If live infestations remain in the trunks, fell the trees and cut into sections. Spray the trunk and large limbs and turn sections so that all of the surface area can be treated. Do not apply more than 0.2 libs. Al (12.8 fl. 0.2) of this product to trees per acre.

## FOLIAR SPRAYS TO ORNAMENTALS AND TREES

#### (Including Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)

For applications to ornamentals (including but not limited to trees, shrubs, ground covers, bedding plants and foliage plants, conifers (field and container grown), Christmas Trees, and pine seed orchards), apply 0.04 to 0.32 fl. oz. Bifen 2 AG Gold per 1000 sq. ft. or 1.8 to 14.4 fl. oz. per 100 gallons. Bifen 2 AG Gold may be diluted and applied in various volumes of water providing that the maximum label rate (0.32 fl. oz. per 100 gallons, Bifen 2 AG Gold may be diluted and applied in various volumes of water providing that the maximum label rate (0.32 fl. oz. per 100 ga, ft. or 14.4 fl. oz. per 100 gallons) is not exceeded. Bifen 2 AG Gold may be applied through low-volume application equipment by dilution with water or other carriers and providing that the maximum label rate (0.32 fl. oz. per 100 ga, ft. or 14.4 fl. oz. per 100 gallons) is not exceeded.

#### Calculating Dilution Rates Using the Ornamental Application Rates Table and the Bifen 2 AG Gold Dilution Chart

Use the following steps to determine the appropriate dilution of this product required to control the specific pests:

- 1. Find the least susceptible target pest (the pest that requires the highest application rate for control).
- 2. Select an application rate in terms of fluid ounces of this product.
- 3. Find your application volume and how much spray you want to prepare.

4. Use the Ornamental Dilution Chart to determine the appropriate volume of this product that must be mixed in your desired volume of water.

For example, to control black vine weevil adults on rhododendron, the Ornamental Application Rates table shows that 0.08 to 0.16 fl. oz. of this product should be applied per 1000 sq. ft. You select an application rate of 0.16 fl. oz. per 1000 sq. ft. because maximum residual control is desired. Your application volume is approximately 300 gallons per acre which is equivalent to 6.9 gallons per 1000 sq. ft. Consulting the Ornamental Dilution Chart shows that you should dilute 0.24 fl. oz. of this product in 10 gallons of water.

BIFEN 2 AG GOLD ORNAMENTAL DILUTION CHART								
Application Rate		Fluid Ounces (	mL) of Bifen 2 A	of Bifen 2 AG Gold diluted to the Volumes of Finished Spray				
Application Rate	1 Ga	1 Gallon 1 Gallon 1 Gallon 1 Gallon						
Fl. oz./ 1000 sq. ft.	Fl. oz.	z. mL Fl. oz. mL				mL	Fl. oz.	
0.04	0.018	0.5	0.09	2.6	0.18	5.3	1.8	
0.08	0.036	1.1	0.18	5.3	0.36	10.6	3.6	
0.06	0.072	2.1	0.36	10.6	0.72	21.3	7.2	
0.32	0.144	4.3	0.72	21.3	1.44	42.6	14.4	

(7.9)(FI. Oz. of Bifen 2 AG Gold added to tank) = Percent Active Ingredient of Spray Mix (gallons of finished spray mix)(128)

## **ORNAMENTAL AND TREE FOLIAR APPLICATION RATES**

The application rates listed in the following table will provide excellent control of the noted pests under typical conditions. However, at the discretion of the applicator, this product may be applied at up to 0.32 fl. oz. per 1000 sq. ft. (14.4 fl. oz. per 100 gallons) to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired.

PEST	DOSAGE	COMMENTS
Bagworms <sup>1</sup> Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tussock Moth Adelgids Ants Aphids Bees Beet Armyworm Beetles <sup>2</sup> Black Vine Weevil (Adults) Scales, such as Brown Soft Scales California Red Scale (Crawlers) <sup>2</sup> Elongated Hemlock Scale Pine Needle Scales (Crawlers) <sup>2</sup> Elongated Hemlock Scale Pine Needle Scales (Crawlers) <sup>2</sup> Broad Mites Budworms Cicadas Citrus Thrips Clover Mites Crickets Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Glassywinged Sharpshooter Grasshoppers Japanese Beetle (Adult)	0.04 – 0.08 fl. oz. per 1000 sq. ft. (1.8 – 3.8 fl. oz. per 100 gallons) 0.08 – 0.16 fl. oz. per 1000 sq. ft. (3.6 – 7.2 fl. oz. per 100 gallons)	<ol> <li>Bagworms: For best results, apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.</li> <li>Beetles, Scale Crawlers, Twig Borers, and Weevils: May treat trunks, stems, and twigs in addition to plant foliage.</li> <li>Spider Mites: Bifen 2 AG Gold provides optimal twospotted spider mite control when applied during spring to mid-summer. Higher application rates and/ or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer. The addition of a surfactant or horticultural oil may increase the effectiveness of this product. Combinations of this product with other registered miticides have also proven effective. Alternately, Bifen 2 AG Gold applications may be rotated with those of other products that have dif- ferent modes of action in control programs that are designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommenda- tions in your region.</li> <li>** For foraging ants</li> </ol>

#### **ORNAMENTAL AND TREE FOLIAR APPLICATION RATES** (continued)

See above for appropriate dosage.	See above for appropriate comments.
0.16 - 0.32 fl. oz. per 1000 sg. ft.	
(1.2 17.7 II. 02. per 100 gallolis)	
	See above for appropriate dosage. 0.16 – 0.32 fl. oz. per 1000 sq. ft. (7.2 – 14.4 fl. oz. per 100 gallons)

## BROADCAST SPRAYS TO TURFGRASS (including lawns, golf courses, sod farms, parks, etc).

Apply Bifen 2 AG Gold as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage. For low water volume usage, less than 2 gallons/1000 square feet, addition of a non-ionic or silicone-based surfactant (0.25% v/v) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface peets such as, but not limited to, mole crickets.

#### Restrictions:

In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch). In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

#### Spray Drift Precautions (For Turf & Ornamental Uses)

Do not apply when wind conditions favor downwind drift to nearby water bodies. Do not apply when wind velocity exceeds 10 miles per hour. Avoid application when wind gusts approach 10 mph. Apply using nozzles that provide the largest droplet size compatible with adequate coverage.

#### Turfgrass Application Rates

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, Bifen 2 AG Gold may be applied at up to 0.32 fl. oz. per 1000 square feet to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur.

PEST	DOSAGE
Armyworms <sup>1</sup> Cutworms <sup>1</sup> Sod Webworm1	0.05 to 0.08 fl. oz. per 1000 sq. ft.
Annual Bluegrass Weevil ( <i>Hyperodes</i> ) (Adult) <sup>2</sup> Banks Grass Mite <sup>6</sup> Billbugs (Adult) <sup>3</sup> Black Turfgrass Ataenius (Adult) <sup>4</sup> Crickets Earwigs Fleas (Adult) Grasshoppers Mealybugs Mites <sup>6</sup>	0.08 to 0.16 fl. oz. per 1000 sq. ft.
Ants Chinch Bugs <sup>5</sup> Fleas (Larvae) <sup>7</sup> Imported Fire Ants <sup>8</sup> Japanese Beetle (Adult) Mole Cricket (Adult) <sup>9</sup> Mole Cricket (Nymph) <sup>10</sup> Ticks <sup>11</sup>	0.16 to 0.32 fl. oz. per 1000 sq. ft.

 Armyworms, Cutworms and Sod Webworms: To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.32 fluid oz. per 1000 square teat) may be required during periods of high pest pressure.

- Annual Bluegrass Weevil (Hyperodes) adults: Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when Forsythia is in full bloom and concludes when flowering dogwood (Cornus florida) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.
- 3. Billbug adults: Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.
- 4. Black Turfgrass Ataenius adults: Applications should be made during May and July to control the first and second generation of black turfgrass ataenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (*Spiraea vanhoutte*) and horse chestnut (*Aesculus hippocastanum*). The July application should be timed to coincide with this blooming of Rose of Sharon (*Hibiscus syriacus*).

- 5. Chinch Bugs: Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch bugs can be one of the most difficult pests to control in grasses and the higher application rates (up to 0.32 fluid oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.
- 6. Mites: To ensure optimal control of eriophyld mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.
- 7. Flea larvae: Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area is being treated with this product at 0.08 fluid ounces per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.
- 8. Imported Fire Ants: Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will eliminate existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Broadcast treatments should apply 0.32 fluid oz. per 1000 square feet. Mounds should be treated by diluting 0.05 fluid oz. of Bifen 2 AG Gold per gallon of water and applying 1 to 2 gallons of finished spray per mound. The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. A four feat diameter cede around the mound should also be frosted. For best results, apply in cool weather (65 + 80°F) or in early rooming or late evening hours. Note: a spray rig that is calibrated to apply 0.32 fluid oz. per 1000 square feet of this product in 5 gallons per 1000 square feet contains the approximate dilution (0.05 fluid as per gallon) that is required for fire ant mound drenches in the spray tank.
- 9. Mole Cricket adults: Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Grass areas that receive pressure from adult mole crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).
- 10. Mole Cricket nymphs: Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecti-cide will be maximized.
- 11. Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever): Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas who schewe and/or maintain control during periods of high pest pressure. Repeat application is necessary to achieve and/or maintain. Re-treatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application should be limited to no more than once per seven days. Deer ticks (bodes spp.) have a complicated life cycle that ranges over a two year period and involves four life stages. Applications should be made in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid- to late-spring to control larvae and nymphs that reside in the soil and leaf litter. American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Applications should be made as necessary from mid-spring to control darvae, nymphs, and adults.

	BIFEN 2 AG GOLD LAWN DILUTION CHART							
Application	lication Application Fluid Ounces (mL) of Bifen 2 AG Gold diluted to the Volumes of Finished Spray							ay
Volume:	Rate:	1 Ga	allon	5 Ga	llons	10 Ga	100 Gallons	
Gallons/ 1000 sq. ft.	Fl. Oz./ 1000 sq. ft.	Fl. oz.	mL	Fl. oz.	mL	Fl. oz.	mL	Fl. oz.
1	0.05	0.05	1.48	0.25	7.39	0.50	14.8	5.00
1	0.08	0.08	2.37	0.40	11.83	0.80	23.7	8.00
1	0.16	0.16	4.73	0.80	23.66	1.60	47.3	16.00
1	0.32	0.32	9.46	1.60	47.32	3.20	94.6	32.00
2	0.05	0.025	0.74	0.13	3.70	0.25	7.4	2.50
2	0.08	0.040	1.18	0.20	5.91	0.40	11.8	4.00
2	0.16	0.080	2.37	0.40	11.83	0.80	23.7	8.00
2	0.32	0.160	4.73	0.80	23.66	1.60	47.3	16.00
3	0.05	0.017	0.49	0.08	2.46	0.17	4.9	1.67
3	0.08	0.027	0.79	0.13	3.94	0.27	7.9	2.67
3	0.16	0.053	1.58	0.27	7.89	0.53	15.8	5.33
3	0.32	0.107	3.15	0.53	15.77	1.07	31.5	10.67
4	0.05	0.013	0.37	0.06	1.85	0.13	3.7	1.25
4	0.08	0.020	0.59	0.10	2.96	0.20	5.9	2.00
4	0.16	0.040	1.18	0.20	5.91	0.40	11.8	4.00
4	0.32	0.080	2.37	0.40	11.83	0.80	23.7	8.00
5	0.05	0.010	0.30	0.05	1.48	0.10	3.0	1.00
5	0.08	0.016	0.47	0.08	2.37	0.16	4.7	1.60
5	0.16	0.032	0.95	0.16	4.73	0.32	9.5	3.20
5	0.32	0.064	1.89	0.32	9.46	0.64	18.9	6.40
10	0.05	0.005	0.15	0.03	0.74	0.05	1.5	0.50
10	0.08	0.008	0.24	0.04	1.18	0.08	2.4	0.80
10	0.16	0.016	0.47	0.08	2.37	0.16	4.7	1.60
10	0.32	0.032	0.95	0.16	4.73	0.32	9.5	3.20

#### Attention

- · Do not apply to pets, crops, or sources of electricity.
- Firewood is not to be treated.
- . Do not allow spray to contact food, foodstuffs, food contacting surfaces, food utensils, or water supplies.
- . Do not apply this pesticide in livestock buildings (barns).
- . Keep children and pets off treated areas following application until the spray has dried.
- Do not apply by air.
- · Do not use in greenhouses.
- . Do not apply this product through any type of irrigation system. Do not apply when a temperature inversion exists.
- Do not apply for surface-feeding pests if rain is expected within 12 hours (or whatever time is necessary for the spray to dry).
- . For turf treatment, apply with nozzles not more than 2 feet above the grass.
- Do not apply within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds.
- . Do not apply when grass areas are water logged or the soil is saturated with water (i.e., will not accept irrigation).
- Vinyl and Aluminum Siding: Do not spray directly onto vinyl or aluminum siding. If Biten 2 AG Gold inadvertently contacts vinyl and aluminum siding (particularly lightly colored, aged, weathered, or otherwise damaged), it may result in staining, bleaching, or discoloration. Wash off thoroughly with detergent and water. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Avoid application to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

## IMPORTANT INFORMATION - READ BEFORE USING PRODUCT LIMITATION OF WARRANTY AND LIABILITY

Read the entire Directions for Use, Conditions of Warranty and Limitations of Liability before using this product. If the terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following CONDITIONS, DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Direct AG Source, LLC or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of Direct AG Source, LLC. To the extent consistent with applicable law, all such risks shall be assumed by Buyer or User.

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# **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.

#### GROUP 3A INSECTICIDE

# Bifen 2 AG Gold

## **INSECTICIDE/MITICIDE**

For use to control listed insects and mites on artichokes, brassicas, caneberries, canola, cilantro, citrus, coriander, corn, cotton, crambe, cucurbits, dried beans and peas, fruiting vegetables, grapes, head lettuce, hops, leafy brassicas, mayhaw, okra, peanuts, pears, rapeseed, root crops, soybeans, spinach, succulent peas and beans, tobacco, and tuberous and corm vegetables.

For use to control listed insect pests on Ornamentals and Trees\* (including Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms) \*NOT FOR USE IN CALIFORNIA

DO NOT APPLY THIS PRODUCT ON GOLF COURSES AND SOD FARMS IN NASSAU OR SUFFOLK COUNTY, NEW YORK.

#### ACTIVE INGREDIENT: Diferent having (O mention of 1 d think and d O tol) mention of C

#### % BY WT.

Bitenthrin: (2 methyl[1,1 –biphenyl]-3-yi)methyl 3-	
(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate*	
OTHER INGREDIENTS**:	
TOTAL:	
*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** VARNING-AVIS

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.)

This label must be in the possession of the user at the time of application. See inside label booklet for additional precautionary statements.

EPA Reg. No. 83222-1

## **NET CONTENTS: 1 GALLON**



Manufactured For: Direct Ag Source, LLC 30473 260th Street • Eldora, IA 50627 EPA 110712/Rev A