



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

June 16, 2022

Andrew Kieniksmann  
Federal & State Registration Manager  
ISK Biosciences Corporation  
7470 Auburn Road, Suite A  
Concord, OH 44077

Subject: PRIA Label Amendment – Flonicamid: New Use on Small Fruit Vine Climbing (Except Fuzzy Kiwifruit), Subgroup 13-07F; Amended Tolerance for Alfalfa, Hay; Change to PHI for Alfalfa & Addition of *Registration Review* Mitigation  
Product Name: Beleaf® 50SG Insecticide  
EPA Registration Number: 71512-10  
Application Dates: October 27, 2020 and April 26, 2021  
Petition Numbers: 0F8883 & 0F8884  
Decision Numbers: 567426, 567428, 567430 & 573401

Dear Andrew Kieniksmann:

The application referred to above, submitted under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable under FIFRA section 3(c)(5).

You must submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. The next label printing of this product must use this labeling unless subsequent changes have been approved. You must submit one (1) copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is

Page 2 of 2  
EPA Reg. No. 71512-10  
Decision Nos. 567426, 567428, 567430 & 573401

brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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

If you have any questions, please contact Mr. Carmen J. Rodia, Jr. via email at [Rodia.Carmen@epa.gov](mailto:Rodia.Carmen@epa.gov).

Sincerely,



Debra N. Rate, Ph.D., Acting Chief  
Invertebrate-Vertebrate Branch 2  
Registration Division (7505P)

*Enclosures:*

- Stamped "Accepted" Master Label, June 16, 2022*
- EFED Drinking Water & Ecological Risk Assessments to Support Use on Grape (Small Fruit) and Climbing Vines (Except Fuzzy Kiwi), dated February 14, 2022*
- HED Chronic Aggregate Dietary (Food + Drinking Water) Exposure and Risk Assessment for the Establishment of Permanent Tolerances in/on Small Vine-climbing Fruit, except Fuzzy Kiwifruit (Subgroup 13-07F) and a Tolerance Increase on Alfalfa, dated September 28, 2021*
- HED Risk Assessment for Establishment of Permanent Tolerances in/on Small Vine-Climbing Fruit, except Kiwifruit (Subgroup 13-07F) and a Tolerance Increase on Alfalfa. Summary of Analytical Chemistry & Residue Data, dated September 28, 2021*
- HED Occupational and Residential Exposure Assessment for Proposed Use on Small Vine-Climbing Fruit, except Fuzzy Kiwifruit (Subgroup 13-07F), dated October 7, 2021*
- E-Copy of Published FR Notice for Flonicamid (PP #0F8884), dated May 19, 2022*



<b>ACCEPTED</b>
06/16/2022
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 71512-10

FLONICAMID	GROUP	29	INSECTICIDE
------------	-------	----	-------------

# Beleaf<sup>®</sup> 50SG Insecticide

EPA Reg. No. 71512-10

EPA Est. No.

<b>Active Ingredient:</b>	<b>By Wt.</b>
*Flonicamid.....	50.0%
<b>Other Ingredients.....</b>	<b>50.0%</b>
<b>Total.....</b>	<b>100.0%</b>

\*Contains 0.5 pounds active ingredient per pound of formulated product  
U.S. Patent No. 5360806

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

**FIRST AID**

**If Swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.  
**If on Skin:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.  
**If in Eyes:** Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center 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:** Treatment is otherwise controlled by removal of exposure followed by symptomatic and supportive care.

**HOTLINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional information on this pesticide product (including health concerns, medical emergencies, or pesticide concerns), you may call 1-888-484-7546, twenty-four (24) hours per day, seven (7) days per week.

**See other panels for additional precautionary statements.**

**Net Contents: 5 lbs.**  
 ISK Biosciences Corporation  
 7470 Auburn Road, Suite A  
 Concord, Ohio 44077

## PRECAUTIONARY STATEMENTS

### Hazards to Humans (& Domestic Animals)

#### CAUTION

Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Do not get on skin, in eyes or on clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and waterproof gloves.

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. When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

##### Users should:

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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

#### Environmental Hazards

This product is moderately toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

#### DIRECTIONS FOR USE

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

#### Use Restrictions

- Apply this product only as specified the EPA approved label.
- **DO NOT** apply this product in a way that it will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
- **DO NOT** store Beleaf 50SG spray mixtures overnight.
- **DO NOT** use this product in home gardens.
- **DO NOT** use liquid fertilizer as a carrier for Beleaf 50SG
- **DO NOT APPLY** Beleaf 50SG THROUGH ANY IRRIGATION SYSTEM **PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.**
- 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), restricted-entry interval (REI) and notification to workers (as applicable). 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, waterproof gloves, and shoes plus socks.

## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Keep this product in its tightly closed original container, when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals, and avoid excessive heat while in storage. Carefully open containers. After partial use, fold and roll back bags, clamp and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

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

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or dispose of in a sanitary landfill or by other procedures allowed by State and Local authorities.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call CHEMTREC (800) 424-9300. To confine spill: Cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

## PRODUCT INFORMATION

Beleaf 50SG is a 50 percent soluble granular formulation of the insecticide flonicamid. It controls insects which may vector viruses and pathogens. Residual control of flonicamid has been shown to reduce disease transmission and symptoms, thereby increasing plant health. Beleaf 50SG provides control of a variety of aphid and plant bug pests and suppression of some non-aphid pests in Brassica head and stem vegetables; Brassica leafy greens; cotton; cucurbit vegetables; fruiting vegetables (except cucurbits); hop; leaf petiole vegetables; leafy vegetables (except Brassica); tuberous and corm vegetables; legume vegetables (except soybeans); root vegetables (except sugar beets); pome fruit; stone fruit; tree nuts; citrus; commercial production of greenhouse-grown cucumbers, lettuce, peppers and tomatoes; grapes and other small vine climbing fruit (except fuzzy kiwifruit); low growing berries; canola; alfalfa (forage, hay, and seed); clover (forage and hay); celtuce; Florence fennel; kohlrabi and mint.

The rate of application is dependent upon the insect species present, the level of insect pressure, and the amount of foliage present. Begin applications before populations begin to build or at economic thresholds according to local economic guidelines. Refer to local Cooperative Extension Guideline and/or time applications for scouting results. Thorough plant coverage is essential for good performance.

**Mode of Action:** Beleaf 50SG is a member of the pyridinecarboxamide class of chemistry. Beleaf 50SG controls target pests by contact and ingestion provoking rapid and irreversible feeding cessation. Aphids and other insects could remain on the plant until they desiccate.

**Pesticide Resistance Management:** For resistance-management, Beleaf 50SG contains a Group 29 insecticide. Any insect population may contain individuals naturally resistant to Beleaf 50SG and other Group 29 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance management strategies should be followed. To reduce the potential for developing insect resistance, rotate to an insecticide with a different mode of action. Monitor treated pest populations for resistance development. Read product label before applying any insecticide and follow label directions.

To delay insecticide resistance, take the following steps:

- Rotate the use of Beleaf 50SG or other Group 29 insecticides within a growing season, or among growing seasons, with different groups that control the same pests. Avoid application of more than the maximum seasonal use rate or the total number of consecutive sprays of Beleaf 50SG per season.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.

- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact ISK representatives at (877) 706-4640 or at [www.iskbc.com](http://www.iskbc.com).

### Crop Rotation Restrictions

Following application of Beleaf 50SG, any crop listed on this label may be planted as a rotational crop. All other crops may be planted 30 days after the last application of Beleaf 50SG.

### Maximum Seasonal Application Rates and Pre-Harvest Intervals

Crop	Maximum Seasonal Total (pounds active ingredient)	PHI Days
Listed Brassica Head and Stem Vegetables	0.263	0
Listed Brassica Leafy Vegetables	0.263	0
Cotton	0.263	30
Listed Cucurbit Vegetables	0.263	0
Listed Fruiting Vegetables (except cucurbits)	0.263	0
Grapes and other small vine climbing fruit (except fuzzy kiwifruit)	0.263	7
Hop	0.263	10
Listed Leaf Petiole Vegetables	0.263	0
Listed Leafy Vegetables (except Brassica)	0.263	0
Listed Tuberous and Corn Vegetables	0.263	7
Listed Legume Vegetables (succulent and dried) except soybeans	0.263	7
Listed Root Vegetables (except Sugar Beets)	0.263	3
Listed Pome Fruit	0.263	21
Listed Stone Fruit	0.263	14
Listed Tree Nuts	0.263	40
Listed Citrus	0.263	0
Green House Cucumbers	0.263	0
Green House Tomatoes	0.263	0
Green House Peppers	0.263	0
Green House Lettuce	0.088	0
Rapeseed/Canola	0.263	7
Listed Sunflower Commodities	0.263	0
Low Growing Berries	0.263	0
Strawberry	0.263	0
Kohlrabi	0.263	0
Celtuce	0.263	0
Florence fennel	0.263	0
Mint	0.263	7
Alfalfa (forage, hay, and seed)	0.18	14
Clover (forage and hay)	0.18	60

## Mixing and Loading Instructions

The spray system must be clean and free of residues from previous applications. Fill the spray tank 1/2 full with clean water. The agitation system must be operating and sufficient to provide uniform spray mixing during application and until the spray tank has been emptied. Complete filling the spray tank to the desired level.

Do not store Beleaf 50SG spray mixtures overnight.

Do not use liquid fertilizer as a carrier for Beleaf 50SG.

### Tank Mixtures

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Beleaf 50SG can be mixed with products labeled for use on the crops/sites listed on this label in accordance with the more (most) restrictive of label limitations and precautions. No label dosage rates may be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Beleaf 50SG is generally compatible with other insecticides, fungicides, fertilizers and micronutrient products provided sufficient free water is available for dispersion of all the tank mix products. However, the physical compatibility of Beleaf 50SG with tank mix partners should be evaluated using a jar test before use.

The crop safety of all potential tank mixtures on all crops may not have been tested. Before applying any tank mixture not specifically recommended on this label, the safety to the target crop must be confirmed.

In general, tank mix partners should be added in the following order: products in water-soluble packaging, wettable powders or wettable granules or dry flowables, liquid flowables, liquids, then emulsifiable concentrates. Allow each tank mix partner to become completely dispersed before adding the next product.

### Spray Equipment Clean Out:

After spraying Beleaf 50SG, thoroughly clean the sprayer before using sprayer equipment for any other applications. In addition, users must take appropriate steps to ensure proper equipment clean out for any other products mixed with Beleaf 50SG as required on the other product labels. Refer to the Disposal and Environmental Hazards statements regarding disposal of equipment washwaters.

## Application Information/Mandatory Spray Drift Controls

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers. Use the largest droplet size consistent with good pest control.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

### Ground Boom Applications

Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Utilize nozzles that produce minimal amounts of fine spray droplets. Do not exceed 30 psi spray pressure unless otherwise required by the manufacturer of drift reducing nozzles. Sprayers should be adjusted to position spray tips a minimum of 18 inches above the crop. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in higher application rates.

### Aerial Applications

Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Utilize nozzles that produce minimal amounts of fine spray droplets. Do not exceed 30 psi spray pressure unless otherwise required by the manufacturer of drift reducing nozzles. Use nozzle types and arrangements that will provide optimum coverage while producing a minimal amount of fine droplets.

### Chemigation Applications

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, drip (trickle) (greenhouse cucumbers, peppers and tomatoes as well as field-grown cucurbit vegetables (crop group 9), fruiting vegetables (crop group 8-10) only) or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect any 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. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. 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.

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 also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent

fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment. Beleaf 50SG should be applied continuously for the duration of the water application. Beleaf 50SG should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the target pest. Agitation generally is not required when suitable diluents are used. A diluents test should be conducted to ensure that phase separation would not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

Using Water from Public Water Systems: **DO NOT APPLY Beleaf 50SG THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.** Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Beleaf 50SG may be applied through irrigation systems, which may be **supplied** by a public water system **only if** water from the water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

## SPRAY DRIFT MANAGEMENT

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they must be observed.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS, MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

1. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.
2. Do not cultivate within 10 feet of the aquatic area so as to allow growth of a vegetative filter strip.
3. Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes; reservoirs, rivers, permanent streams, marshes or natural ponds, estuarine/marine habitats, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) applications are made.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory below.

## SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

### Handheld Technology Applications:

- Take precautions to minimize drift.

## IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

### Controlling Droplet Size – Ground Boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce spray drift.

### Controlling Droplet Size – Aircraft

- Adjust nozzles – Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

### BOOM HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

### RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift.



## SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

## TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

## TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

## WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

## Insect Spectra

The following tables list various insect species, which are either effectively controlled or suppressed<sup>1</sup> when appropriate application rates of Beleaf 50SG are made at appropriate timings. See specific crop sections for recommendations on specific pests.

<sup>1</sup>Suppression may be erratic control ranging from good to poor, or a consistent level of control below that generally considered commercially acceptable.

## Aphid Pests

Common Name	Scientific Name
Apple Aphid	<i>Aphis pomi</i>
Black Bean Aphid	<i>Aphis fabae</i>
Black Cherry Aphid	<i>Myzus cerasi</i>
Cabbage Aphid	<i>Brevicoryne brassicae</i>
Cotton / Melon Aphid	<i>Aphis gossypii</i>
Cowpea Aphid	<i>Aphis craccivora</i>
English Grain Aphid	<i>Sitobion avenae</i>
Green Peach Aphid	<i>Myzus persicae</i>
Greenbug	<i>Schizaphis graminum</i>
Hop Aphid	<i>Phorodon humuli</i>
Leaf Curl Plum Aphid	<i>Brachycaudis helichrysi</i>
Mealy Plum Aphid	<i>Hyalopterus pruni</i>
Foxglove Aphid	<i>Aulacorthum solani</i>
Pea Aphid	<i>Acyrtosiphon pisum</i>
Potato Aphid	<i>Macrosiphum euphorbiae</i>
Red Lettuce Aphid	<i>Uroleucon pseudambrosiae</i>
Rosy Apple Aphid	<i>Dysaphis plantaginea</i>
Spirea Aphid	<i>Aphis spiraeicola</i>
Turnip Aphid	<i>Lipaphis erysimi</i>
Woolly Apple Aphid	<i>Eriosoma lanigerum</i>
Red Lettuce Aphid	<i>Nasonovia ribis-nigri</i>
Spotted Alfalfa Aphid	<i>Therioaphis maculata</i>
Blue Alfalfa Aphid	<i>Acyrtosiphon kondoi</i>
Strawberry aphid	<i>Chaetosiphon fragaefolii</i>
Soybean Aphid	<i>Aphis glycines</i>
Black Pecan Aphid	<i>Melanocallis caryaefoliae</i>
Yellow Pecan Aphid	<i>Monelliopsis pecanis</i>
Blackmargined Aphid	<i>Monellia caryella</i>

## Non-Aphid Insect Pests

Common Name	Scientific Name
Cotton Fleahopper	<i>Pseudatomoscelis seriatus</i>
Greenhouse Whitefly	<i>Trialeurodes vaporariorum</i>
Tarnished Plant Bug	<i>Lygus lineolaris</i>
Western Plant Bug	<i>Lygus hesperus</i>
Potato Psyllid	<i>Bactericera cockerelli</i>
Tomato Psyllid	<i>Bactericera cockerelli</i>
Asian Citrus Psyllid	<i>Diaphorina citri</i>
Vine Mealybug	<i>Planococcus ficus</i>

## Rate Conversion Chart for Beleaf 50SG

Ounces Beleaf 50SG/A	Pounds Beleaf 50SG/A	Pounds A/A	Treated Acres / Pound Beleaf 50SG
1.4	0.088	0.044	11.4
1.7	0.106	0.053	9.4
2.0	0.125	0.062	8.0
2.4	0.15	0.075	6.7
2.8	0.175	0.088	5.7

**VEGETABLE, BRASSICA, HEAD AND STEM, GROUP 5-16 AND KOHLRABI (0 DAY PHI) INCLUDING:**

Broccoli; Brussels sprouts; cabbage; cabbage, Chinese, napa; cauliflower; kohlrabi; cultivars, varieties, and hybrids of these commodities

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient /Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b>                      Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>• Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>• Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>			

**BRASSICA, LEAFY GREENS SUBGROUP 4-16B (0 DAY PHI) INCLUDING:**

Arugula; broccoli, Chinese; broccoli raab; cabbage, abyssinian; cabbage, Chinese, bok choy; cabbage, seakale; collards; cress, garden; cress, upland; hanover salad; kale; maca, leaves; mizuna; mustard greens; radish, leaves; rape greens; rocket, wild; shepherd's purse; turnip greens; watercress; cultivars, varieties, and hybrids of these commodities

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient /Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Flonicamid may not be applied when watercress is flooded. Water must be turned off 24 hours in advance of an application, and may be turned back on 24 hours after the application.
- Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**COTTON (30 day PHI)**

Cottonseed; cultivars, varieties, and/or hybrids of these

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient /Acre	
Plant Bugs and Fleahoppers	1.7 to 2.8	0.053 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build or at economic thresholds according to local economic guidelines.</li> <li>• The low rate can be used early season for low pest densities or when tank mixing with other products labeled for target insect control on cotton.</li> </ul>
Aphids	1.4 to 2.8	0.044 to 0.088	<ul style="list-style-type: none"> <li>• Use the high rate for large pest populations, dense foliage, and longer residual.</li> <li>• Rapidly growing cotton may need retreatment. Scout fields often and retreat as necessary to maintain pest populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Use a minimum of 5 gallons per acre by ground and 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

## CUCURBIT VEGETABLES CROP GROUP 9 (0 DAY PHI) INCLUDING:

Chayote (fruit); Chinese waxgourd (Chinese preserving melon); Citron melon; Cucumber; Gherkin; Gourd, edible (includes hyotan, cucuzza, 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); Pumpkin; Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); Squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash; Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)

### Ground or Aerial Spray

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>Rapidly growing plants may need retreatment. Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> <li>If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	2.8	0.088	<ul style="list-style-type: none"> <li>Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

#### SPRAY RECOMMENDATIONS

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

#### USE RESTRICTIONS

- Do not apply more than 2.8 oz/ acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

### Drip Irrigation

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient /Acre	
Aphids Plant Bugs Whiteflies Thrips	2.8 to 4.28	0.088 to 0.133	<ul style="list-style-type: none"> <li>Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>Use LOWER RATE for building populations and use HIGHER RATE for greater populations.</li> <li>Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> <li>Beleaf 50SG must be applied to ensure the product is in the root zone to provide effective control of target pests. Most effective application is when it is applied so that the roots are at or near the site of application. The earlier flonicamid is available to a developing plant, the earlier the protection begins.</li> <li>For transplanted crops, apply BELEAF 50SG within 21 days of transplanting.</li> <li>For direct seeding crops, make applications within 45 days of emergence.</li> </ul>

#### USE RESTRICTIONS

- Make no more than 2 drip applications per crop season.
- Any subsequent applications made with products that contain flonicamid must be foliar applications.
- Do not apply more than one drip irrigation application at the 4.28 oz/ acre (0.133 lbs. ai/acre) rate per season or in a single application.
- Do not apply more than two drip applications 2.8 oz/ acre (0.088 lbs. ai/acre) rate per season.
- Do not apply more than 8.4 oz/ acre Beleaf 50SG (0.263 lbs. ai/acre) or products containing flonicamid per year.
- Allow a minimum of 7 days between applications.

## GREENHOUSE CUCUMBERS – FOLIAR APPLICATION (0 DAY PHI)

PESTS	Rate of Application	USE DIRECTIONS
Aphids Plant Bugs	2.8 – 4.28 oz per acre or 0.065 – 0.1 oz per 1000 sq ft or 1.85 – 2.85 gm per 1000 sq ft	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Check plants often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	4.28 oz per acre or 0.1 oz per 1000 sq ft or 2.85 gm per 1000 sq ft	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. Apply in combination with other effective products for control.</li> <li>• Check plants often and retreat as necessary to maintain populations below damaging levels.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage is essential for optimum control. Apply in sufficient water to ensure good coverage. Use a minimum of 10 gallons per acre (0.25 gallons per 1000 sq ft). Finished spray volume should be increased under extreme pest populations or dense plant foliage but do not exceed the point of runoff.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 4.28 oz per acre (0.1 oz per 1000 sq ft) of Beleaf 50 SG per application.</li> <li>• Do not apply more than 2 applications of Beleaf 50SG at the maximum single application rate of 4.28 oz/acre (0.1 oz per 1,000 sq ft) per crop season.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>		

## GREENHOUSE CUCUMBERS – APPLICATION TO SOIL OR GROWTH MEDIA (0 DAY PHI)

PESTS	Rate of Application	USE DIRECTIONS
Aphids Plant Bugs Greenhouse Whitefly	4.28 oz / acre or 2.8 gm / 1000 sq ft or 12.5 gm / 1000 plants (based on planting density of 1 plant per 4.5 sq ft or 2.4 plants per sq meter).	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Apply using a drench by hand, drip irrigation, or with motorized calibrated irrigation equipment to the base of the plants.</li> <li>• Use a minimum of 25 gallons per 1000 plants but, do not exceed the holding capacity of soil or growth media.</li> <li>• See the Chemigation Section of this label for additional information.</li> </ul>
<p><b>RECOMMENDATIONS</b> Many varieties have been tested for tolerance to Beleaf 50SG and show good crop safety. To assure the greatest crop safety under a wide range of conditions, treating a few plants before applying to the whole greenhouse is recommended.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 4.28 oz per acre (0.44 oz per 1000 plants based on 1 plant per 4.5 sq ft or 9712 plants per acre) of Beleaf 50SG per application.</li> <li>• Do not make more than 2 applications at 4.28 oz per acre (0.44 oz per 1000 plants based on 1 plant per 4.5 sq ft or 9712 plants per acre) of Beleaf 50SG per crop season.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>		

**FRUITING VEGETABLES CROP GROUP 8-10 (0 DAY PHI) INCLUDING:**

African eggplant; bush tomato; bell pepper; cocona; currant tomato; eggplant; garden huckleberry; goji berry; groundcherry; martynia; naranjilla; okra; pea eggplant; pepino; nonbell pepper; roselle; scarlet eggplant; sunberry; tomatillo; tomato; tree tomato; cultivars, varieties, and/or hybrids of these.

**Ground or Aerial Spray**

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids Plant Bugs Tomato Psyllid	2.8 to 4.28	0.088 to 0.133	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE</li> </ul>
Greenhouse Whitefly	2.8 to 4.28	0.088 to 0.133	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/ acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG at the minimum single application rate of 2.8 oz/acre (0.088 lbs ai/acre) per year.
- Do not apply more than 2 applications of Beleaf 50SG at the maximum single application rate of 4.28 oz/acre (0.133 lbs ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**Drip Irrigation**

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient /Acre	
Aphids Plant Bugs Whiteflies Tomato Psyllid Thrips	2.8 to 4.28	0.088 to 0.133	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> <li>• Beleaf 50SG must be applied to ensure the product is in the root zone to provide effective control of target pests.</li> <li>• Most effective application is when it is applied so that the roots are at or near the site of application. The earlier flonicamid is available to a developing plant, the earlier the protection begins.</li> <li>• For transplanted crops, apply Beleaf 50SG within 21 days of transplanting.</li> <li>• For direct seeding crops, make applications within 45 days of emergence.</li> </ul>

**USE RESTRICTIONS**

- Make no more than 2 drip applications per crop season.
- Any subsequent applications made with products that contain flonicamid must be foliar applications.
- Do not apply more than one drip irrigation application at the 4.28 oz/ acre (0.133 lbs. ai/acre) rate per season or in a single application.
- Do not apply more than two drip applications 2.8 oz/ acre (0.088 lbs. ai/acre) rate per season.
- Do not apply more than 8.4 oz/ acre Beleaf 50SG (0.263 lbs. ai/acre) or products containing flonicamid per year.
- Allow a minimum of 7 days between applications.

## GREENHOUSE TOMATOES – FOLIAR APPLICATION (0 DAY PHI)

PESTS	Rate of Application	USE DIRECTIONS
Aphids Plant Bugs Tomato Psyllid	2.8 – 4.28 oz per acre or 0.065 – 0.1 oz per 1000 sq ft or 1.85 – 2.85 gm per 1000 sq ft	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Check plants often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	4.28 oz per acre or 0.1 oz per 1000 sq ft or 2.85 gm per 1000 sq ft	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. Apply in combination with other effective products for control.</li> <li>• Check plants often and retreat as necessary to maintain populations below damaging levels.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage is essential for optimum control. Apply in sufficient water to ensure good coverage. Use a minimum of 10 gallons per acre (0.25 gallons per 1000 sq ft). Finished spray volume should be increased under extreme pest populations or dense plant foliage but do not exceed the point of runoff.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 4.28 oz per acre (0.1 oz per 1000 sq ft) of Beleaf 50 SG per application.</li> <li>• Do not apply more than 2 applications of Beleaf 50SG at the maximum single application rate of 4.28 oz/acre (0.1 oz per 1,000 sq ft) per crop season.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>		

## GREENHOUSE PEPPERS – FOLIAR APPLICATION (0 DAY PHI)

PESTS	Rate of Application	USE DIRECTIONS
Aphids Plant Bugs	2.8 – 4.28 oz per acre or 0.065 – 0.1 oz per 1000 sq ft or 1.85 – 2.85 gm per 1000 sq ft	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Check plants often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Whiteflies Thrips	4.28 oz per acre or 0.1 oz per 1000 sq ft or 2.85 gm per 1000 sq ft	<ul style="list-style-type: none"> <li>• Apply when whiteflies or thrips first appear, before populations increase to damaging levels.</li> <li>• Apply in combination with other effective products for control.</li> <li>• Check plants often and retreat as necessary to maintain populations below damaging levels.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage is essential for optimum control. Apply in sufficient water to ensure good coverage. Use a minimum of 10 gallons per acre (0.25 gallons per 1000 sq ft). Finished spray volume should be increased under extreme pest populations or dense plant foliage but do not exceed the point of runoff.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 4.28 oz per acre (0.1 oz per 1000 sq ft) of Beleaf 50SG per application.</li> <li>• Do not apply more than 2 applications of Beleaf 50SG at the maximum single application rate of 4.28 oz/acre (0.1 oz per 1,000 sq ft) per crop season.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>		



**HOP (10 DAY PHI)**

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient /Acre	
Hop Aphid	1.7 to 2.8	0.053 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b>            Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground, preferably air-blast; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>• Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>• Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>			

**LEAF PETIOLE VEGETABLE SUBGROUP 22B, CELTUCE AND FLORENCE FENNEL (0 DAY PHI)**

**INCLUDING:**

Cardoon; celery; celery, Chinese; celtuce; fennel, Florence; fuki; rhubarb; udo; zuiki; cultivars, varieties, and hybrids of these commodities

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient /Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b>            Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>• Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>• Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>			

**LEAFY GREENS SUBGROUP 4-16A (0 DAY PHI) INCLUDING:**

Amaranth, Chinese; amaranth, leafy; aster, Indian; blackjack; cat's whiskers; cham-chwi; cham-na-mul; chervil, fresh leaves; chipilin; chrysanthemum, garland; cilantro, fresh leaves; corn salad; cosmos; dandelion, leaves; dang-gwi, leaves; dillweed; dock; dol-nam-mul; ebolo; endive; escarole; fameflower; feather cockscomb; good king henry; huauzontle; jute, leaves; lettuce, bitter; lettuce, head; lettuce, leaf; orach; parsley, fresh leaves; plantain, buckhorn; primrose, English; purslane, garden; purslane, winter; radicchio; spinach; spinach, Malabar; spinach, New Zealand; spinach, tanier; Swiss chard; violet, Chinese, leaves; cultivars, varieties, and hybrids of these commodities

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Do not apply more than 2.8 oz/ acre of Beleaf 50SG (0.088 lbs. ai per acre) per application.
- Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**GREENHOUSE LETTUCE – FOLIAR APPLICATION (0 DAY PHI)**

PESTS	Rate of Application	USE DIRECTIONS
Aphids Plant Bugs	2.8 oz per acre or 0.065 oz per 1000 sq ft or 1.85 gm per 1000 sq ft	<ul style="list-style-type: none"> <li>• Make one application before populations begin to build and before damage is evident, according to local pest management guidelines, to control aphids and plants bugs that hide within the lettuce heart.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage is essential for optimum control. Apply in sufficient water to ensure good coverage. Use a minimum of 100 gallons per acre (2.5 gallons per 1000 sq ft). Finished spray volume should be increased under extreme pest populations or dense plant foliage but do not exceed the point of runoff.

**USE RESTRICTIONS**

- Do not apply more than 1 application of Beleaf 50SG at the maximum single application rate of 2.8 oz/acre (0.065 lbs ai/acre) per year.

**TUBEROUS AND CORM VEGETABLES (7 DAY PHI) INCLUDING:**

Arracacha; Arrowroot; Chinese artichoke; Jerusalem artichoke; Edible canna; Casava (bitter and sweet); Chayote (root); Chufa; Dasheen; Ginger; Leren; Potato; Sweet potato; Tanier; Turmeric; Yam Bean; Yam (true).

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids, Plant Bugs and Potato Psyllid	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations; use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> <li>• Beleaf 50SG is recommended as a supplemental foliar control of Green Peach Aphid in long season potatoes following an at-plant program using systemic insecticides and for primary foliar control of Green Peach Aphid in short season potatoes.</li> <li>• Scout fields, before aphid flights begin, at intervals and in locations sufficient to provide representative information on population development. Consult local pest management guidelines for correct procedures.</li> <li>• Foliar application of Beleaf 50SG should begin when Green Peach aphid numbers reach 5 per 100 leaves, 1 winged aphid per plant or the observation of wingless aphids; consult local pest management guidelines for specific recommendations.</li> </ul>
Greenhouse Whitefly	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Do not apply more than 2.8 oz/ acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**ROOT VEGETABLES (EXCEPT SUGAR BEETS) (3 DAY PHI) INCLUDING:**

Beet, garden; Burdock, edible; Carrot; Celeriac; Chervil, turnip-rooted; Chicory; Ginseng; Horseradish; Parsley, turnip-rooted; Parsnip; Radish; Radish, oriental; Rutabaga; Salsify: Salsify, black; Salsify, Spanish; Skirret; Turnip.

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations; use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Rapidly growing plants may need retreatment. Scout fields before aphid flights begin, at intervals and in locations sufficient to provide representative information on population development and retreat as necessary to maintain populations below damaging levels. Consult local pest management guidelines for correct procedures.</li> <li>• Foliar application of Beleaf 50SG should begin when Green Peach aphid numbers reach 5 per 100 leaves, 1 winged aphid per plant or the observation of wingless aphids; consult local pest management guidelines for specific recommendations.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Greenhouse Whitefly	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when adult whiteflies first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Do not apply more than 2.8 oz/ acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**POME FRUIT CROP GROUP 11-10 (21 DAY PHI) INCLUDING:**

Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these.

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout trees often during green tip through pink growth stages and post-bloom and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground, preferably air-blast; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>• Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>• Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>			

**STONE FRUIT CROP GROUP 12-12 (14 DAY PHI) INCLUDING:**

Apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; cherry, sweet; cherry, tart; Jujube, Chinese; nectarine; peach; plum; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plum, prune; plumcot; sloe; cultivars, varieties, and/or hybrids of these.

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout trees often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground, preferably air-blast; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>• Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>• Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>• Allow a minimum of 7 days between applications.</li> </ul>			

**TREE NUTS (40 DAY PHI) INCLUDING:**

African nut-tree; Almond; Beechnut; Brazil nut; Brazilian pine; Bunya; Bur oak; Butternut; Cajou nut; Candlenut; Cashew; Chestnut; Chinquapin; Coconut; Coquito nut; Dika nut; Ginkgo; Guiana chestnut; Hazelnut; Heartnut; Hickory nut; Japanese horse-chestnut; Macadamia nut; Mongongo nut; Monkey-pot; Monkey puzzle nut; Okari nut; Pachira nut; Peach palm nut; Pecan; Pequi; Pili nut; Pine nut; Pistachio; Sapucaia nut; Tropical almond; Walnut, black; Walnut, English; Yellowhorn

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout trees often and retreat as necessary to maintain populations below damaging levels.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
Plant Bugs	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when bugs first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout trees often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground, preferably air-blast; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

## CITRUS FRUIT GROUP (0 DAY PHI) INCLUDING

Australian desert lime; Australian finger-lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; mount white lime; New Guinea wild lime; orange, sour; orange, sweet; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin); tangor; trifoliate orange; uniq fruit; cultivars, varieties, and/or hybrids of these

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Asian Citrus Psyllid	2.8 to 5.7	0.088 – 0.178	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use the LOWER RATE for building populations and use the HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout trees often and retreat as necessary to maintain populations below damaging levels.</li> <li>• For optimum performance, include an adjuvant. Only use adjuvants known to be safe on citrus crops.</li> </ul>
Aphids	2.8	0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Scout trees often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

### SPRAY RECOMMENDATIONS

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground, preferably air-blast; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage. Spray adjuvants may improve coverage.

### USE RESTRICTIONS

- Do not apply more than 3 applications of Beleaf 50SG at the minimum single application rate of 2.8 oz/acre (0.088 lbs ai/acre) per year.
- Do not apply more than 1 application of Beleaf 50SG at the maximum single application rate of 5.7 oz/acre (0.178 lbs ai/acre) per year.
- Do not apply more than a total of 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**GRAPES AND OTHER SMALL VINE CLIMBING FRUIT (EXCEPT FUZZY KIWIFRUIT) SUBGROUP 13-07F (7 DAY PHI) INCLUDING:**

Amur river grape; gooseberry; grape; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and hybrids of these commodities

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids Plant Bugs ( <i>Lygus spp.</i> )	2.8 to 4.2	0.088 to 0.131	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE</li> </ul>
Vine Mealybugs	4.2 to 5.6	0.131 to 0.175	<ul style="list-style-type: none"> <li>• Apply when mealybugs first appear, before populations increase to damaging levels.</li> <li>• Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground; use a minimum of 10 gallons per acres by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage. Spray adjuvants may improve coverage but do not use binder or sticker-type surfactants.

**USE RESTRICTIONS**

- Do not apply more than 1 application of Beleaf 50SG at the maximum single application rate of 5.6 oz/acre (0.175 lbs ai/acre) per year.
- Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/acre) per year. This is equivalent to:
  - 3 applications at 2.8 oz/acre of Beleaf 50SG per year, or
  - 2 applications at 4.2 oz/acre of Beleaf 50SG per year
- Allow a minimum of 7 days between applications.



**LOW GROWING BERRY (0 DAY PHI) INCLUDING:**

Bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; strawberry; cultivars, varieties, and/or hybrids of these

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs ( <i>Lygus spp.</i> ) Strawberry Aphid	2.8	0.088	<ul style="list-style-type: none"> <li>• Apply when Aphids or Lygus first appear in the field and before populations reach high levels.</li> <li>• Beleaf 50SG will stop Aphid and Lygus feeding rapidly but it may take several days to see a reduction in Aphid and Lygus numbers. Reapply when new insects are detected.</li> <li>• Two sequential applications of Beleaf 50SG result in better Aphid and Lygus control than a single application.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground; use a minimum of 10 gallons per acres by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage. Spray adjuvants may improve coverage but do not use binder or sticker-type surfactants. Only use adjuvants known to be safe on strawberries.

**USE RESTRICTIONS**

- Do not make more than two applications of Beleaf 50SG without rotating to an insecticide with a different mode of action.
- Do not apply more than 2.8 oz./acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz./acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**RAPESEED, CANOLA VARIETIES ONLY (7 day PHI) INCLUDING:**

Borage; crambe; cuphea; echium; flax seed; gold of pleasure; hare's ear mustard; lesquerella; lunaria; meadowfoam; milkweed; mustard seed; oil radish; poppy seed; rapeseed; sesame; sweet rocket; cultivars, varieties, and/or hybrids of these

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs ( <i>Lygus spp.</i> ) Cabbage Aphid Green Peach Aphid Turnip Aphid	2.8	0.088	<ul style="list-style-type: none"> <li>Apply when Aphids or Lygus first appear in the field and before populations reach high levels.</li> <li>Beleaf 50SG will stop Aphid and Lygus feeding rapidly but it may take several days to see a reduction in Aphid or Lygus numbers. Reapply when new insects are detected.</li> <li>Two sequential applications of Beleaf 50SG result in better Aphid and Lygus control than a single application.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage. Spray adjuvants may improve coverage but do not use binder or sticker-type surfactants. Only use adjuvants known to be safe on canola.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>Do not make more than two applications of Beleaf 50SG without rotating to an insecticide with a different mode of action.</li> <li>Do not apply more than 2.8 oz./ acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>Do not apply more than 8.4 oz./ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>Allow a minimum of 7 days between applications.</li> </ul>			

**SUNFLOWER SUBGROUP 20B (0 DAY PHI)**

Calendula; castor oil plant; chinese tallowtree; euphorbia; evening primrose; jojoba; niger seed; rose hip; safflower; stokes aster; sunflower; tallowwood; tea oil plant; vernonia; cultivars, varieties, and/or hybrids of these.

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs	2.8	0.088	<ul style="list-style-type: none"> <li>Apply when insects first appear in the field and before populations reach high levels.</li> <li>Beleaf 50SG will stop feeding rapidly but it may take several days to see a reduction in insect numbers. Reapply when new insects are detected.</li> <li>Two sequential applications of Beleaf 50SG result in better control than a single application.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage of plant foliage is essential for optimum control. Use a minimum of 5 gallons per acre by ground and 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>Do not make more than two applications of Beleaf 50SG without rotating to an insecticide with a different mode of action</li> <li>Do not apply more than 2.8 oz/acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>Allow a minimum of 7 days between applications.</li> </ul>			

**LEGUME VEGETABLES (SUCCULENT AND DRIED) CROP GROUP 6 except soybeans (7 DAY PHI):**

Includes all members of the Legume Vegetables, succulent and dried, Crop Group 6, except soybeans: Bean (*Lupinus*) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (*Phaseolus*) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (*Vigna*) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; pea (*Pisum*) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; soybean (immature seed); sword bean

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs ( <i>Lygus spp.</i> )	2.8	0.088	<ul style="list-style-type: none"> <li>Apply when Aphids or Lygus first appear in the field and before populations reach high levels.</li> <li>Beleaf 50SG will stop Aphid and Lygus feeding rapidly but it may take several days to see a reduction in Aphid or Lygus numbers. Reapply when new insects are detected.</li> <li>Two sequential applications of Beleaf 50SG result in better Aphid and Lygus control than a single application.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 10 gallons per acre when applied by ground; use a minimum of 3 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage. Spray adjuvants may improve coverage but do not use binder or sticker-type surfactants. Only use adjuvants known to be safe on canola.

**USE RESTRICTIONS**

- Do not make more than two applications of Beleaf 50SG without rotating to an insecticide with a different mode of action.
- Do not apply more than 2.8 oz./acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 8.4 oz./acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.
- Do not apply more than 3 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.

**ALFALFA (FORAGE, HAY, AND SEED) (14 DAY PHI) AND CLOVER (FORAGE AND HAY) (60 DAY PHI) GROWN WEST OF THE ROCKIES**

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids and Plant Bugs	2.8	0.088	<ul style="list-style-type: none"> <li>Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> </ul>

**SPRAY RECOMMENDATIONS**

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 20 gallons per acre when applied by ground; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

**USE RESTRICTIONS**

- Do not apply more than 2.8 oz/ acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.
- Do not apply more than 5.6 oz/ acre of Beleaf 50SG (0.18 lbs. ai/acre) per year.
- Do not apply more than 2 applications of Beleaf 50SG per year.
- Allow a minimum of 7 days between applications.
- Forage and hay from alfalfa and clover may be utilized after application of Beleaf 50SG Insecticide only as indicated below:
  - Alfalfa (forage, hay, and seed) – Do not allow foraging of fields or harvesting for hay within 14 days of the last application.
  - Clover (forage and hay) – Do not allow foraging of fields or harvesting for hay within 60 days of the last application.

**MINT: Spearmint, Peppermint (7 DAY PHI)**

PESTS	Rate of Application		USE DIRECTIONS
	Ounces Beleaf 50SG/Acre	Lbs. Active Ingredient/Acre	
Aphids	2.0 to 2.8	0.062 to 0.088	<ul style="list-style-type: none"> <li>• Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>• Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage.</li> <li>• Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> <li>• If identification of aphid species has not been confirmed, use HIGHER RATE.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b>            Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 20 gallons per acre when applied by ground; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 2.8 oz/ acre of Beleaf 50SG (0.088 lbs. ai/acre) per application.</li> <li>• Do not apply more than 8.4 oz/ acre of Beleaf 50SG (0.263 lbs. ai/acre) per year.</li> <li>• Do not apply more than 3 applications of Beleaf 50SG per year.</li> <li>• Allow a minimum of 14 days between applications.</li> </ul>			

**WARRANTY AND LIMITATION OF DAMAGES**

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ISK Biosciences warrants to those persons lawfully acquiring title to this product that at the time of the first sale of this product by ISK Biosciences this product conformed to its chemical description and that it was reasonably fit for the purposes stated on the product label when used both in accordance with the Directions for Use appearing on the product label and under normal conditions of use. To the extent not inconsistent with applicable law, buyers and users of this product assume the risk of all loss or damage from use or handling of this product that results from their failure to read and comply with the Directions for Use of this product which appear on the product label. To the extent consistent with applicable law, and except as provided elsewhere in a writing containing an express reference to this WARRANTY AND LIMITATION OF DAMAGES, ISK BIOSCIENCES MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OR GUARANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF ISK BIOSCIENCES IS AUTHORIZED TO DO SO. Unless expressly prohibited by state law, the liability of ISK Biosciences for any breach of warranty shall not exceed the purchase price of the product as to which a claim is made. To the extent consistent with applicable law, buyers and users of this product are responsible for all loss or damage from use or handling of this product which results from conditions beyond the control of ISK Biosciences including, but not limited to, incompatibility with other products unless otherwise expressly provided in the Directions for Use of this product, weather conditions, cultural practices, moisture conditions or other environmental conditions outside of the ranges that are generally recognized as being conducive to good agricultural and/or horticultural practices.

Beleaf® is a registered trademark of Ishihara Sangyo Kaisha, Ltd.

**BELEAF 50SG - 06152022**

## BELEAF® 50SG INSECTICIDE Supplemental Labeling

SUPPLEMENTAL DIRECTIONS FOR THE USE OF  
**Beleaf 50SG Insecticide (EPA Reg. No. 71512-10)**  
FOR CONTROL OF LISTED PESTS ON GRAPES AND OTHER SMALL VINE CLIMBING FRUIT (EXCEPT FUZZY  
KIWIFRUIT) SUBGROUP 13-07F

This Supplemental Label Expires on June 30, 2025 and must not be used or distributed after this date.

### Directions for Use:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This labeling must be in possession of the user at the time of application. Read the label affixed to the container for Beleaf 50SG Insecticide before applying. Use of Beleaf 50SG Insecticide according to this labeling is subject to the use directions, restrictions and precautions imposed by the label affixed to the container for Beleaf 50SG Insecticide.

<b>CROP: GRAPES AND OTHER SMALL VINE CLIMBING FRUIT (EXCEPT FUZZY KIWIFRUIT) SUBGROUP 13-07F (7 DAY PHI)</b>		
Includes Amur river grape; gooseberry; grape; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and hybrids of these commodities.		
PESTS	RATE PER ACRE	USE DIRECTIONS
Aphids Plant Bugs ( <i>Lygus spp.</i> )	2.8 to 4.2 oz (0.088 to 0.131 lb. a.i. /A)	Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines. Use LOWER RATE for building populations and use HIGHER RATE for greater populations and/or dense foliage. Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment. If identification of aphid species has not been confirmed, use HIGHER RATE.
Vine Mealybugs	4.2 to 5.6 oz (0.131 to 0.175 lb. a.i. / A)	Apply when mealybugs first appear, before populations increase to damaging levels. Application provides SUPPRESSION only. For control, apply in combination with other effective products labeled for use on these listed crops. Scout fields often and retreat as necessary to maintain populations below damaging levels.

### SPRAY RECOMMENDATIONS

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 50 gallons per acre when applied by ground; use a minimum of 10 gallons per acres by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage. Spray adjuvants may improve coverage but do not use binder or sticker-type surfactants.

### USE RESTRICTIONS

- Do not apply more than 1 application of Beleaf 50SG at the maximum single application rate of 5.6 oz/acre (0.175 lbs ai/acre) per year.
- Do not apply more than 8.4 oz/acre of Beleaf 50SG (0.263 lbs. ai/acre) per year. This is equivalent to:
  - 3 applications at a low rate of 2.8 oz/acre Beleaf 50SG per year, or
  - 2 applications at a medium rate of 4.2 oz/acre Beleaf 50SG per year
- Allow a minimum of 7 days between applications.

ISK Biosciences Corporation  
7470 Auburn Rd., Suite A  
Concord, Ohio 44077

Warranty and Limitation of Damages: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, the seller warrants to those persons lawfully acquiring title to this product that at the time of first sale of this product by Seller that this product conformed to its chemical description and was reasonably fit for the purposes stated on the label when used in accordance with Seller's directions under normal conditions of use. To the extent consistent with applicable law, Buyers and users of this product assume the risk of any use contrary to such directions. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESS REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OR GUARANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.** In no event shall Seller's liability for any breach of warranty or guaranty exceed the purchase price of the product as to which a claim is made. To the extent consistent with applicable law, buyers and users of this product are responsible for all loss or damage from use or handling of this product which results from conditions beyond the control of Seller, including, but not limited to, incompatibility with other products unless otherwise expressly provided in Directions for Use of this product, weather conditions, cultural practices, moisture conditions or other environmental conditions outside of the ranges that are generally recognized as being conducive to good agricultural and/or horticultural practices.

**ACCEPTED**

06/16/2022

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 71512-10

## BELEAF® 50SG INSECTICIDE Supplemental Labeling

SUPPLEMENTAL DIRECTIONS FOR THE USE OF  
**Beleaf 50SG Insecticide (EPA Reg. No. 71512-10)**  
FOR CONTROL OF LISTED PESTS ON ALFALFA (FORAGE, HAY, AND SEED) GROWN WEST OF THE ROCKIES

This Supplemental Label Expires on June 30, 2025 and must not be used or distributed after this date.

**Directions for Use:**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This labeling must be in possession of the user at the time of application. Read the label affixed to the container for Beleaf 50SG Insecticide before applying. Use of Beleaf 50SG Insecticide according to this labeling is subject to the use directions, restrictions and precautions imposed by the label affixed to the container for Beleaf 50SG Insecticide.

CROP: ALFALFA GROWN WEST OF THE ROCKIES (14 DAY PHI)		
PESTS	RATE PER ACRE	USE DIRECTIONS
<p style="text-align: center;">Aphids Plant Bugs (<i>Lygus spp.</i>)</p>	<p>2.8 fl oz (0.088 lb. a.i. /A)</p>	<ul style="list-style-type: none"> <li>Begin applications before populations begin to build and before damage is evident, according to local pest management guidelines.</li> <li>Scout fields often and retreat as necessary to maintain populations below damaging levels. Rapidly growing plants may need retreatment.</li> </ul>
<p><b>SPRAY RECOMMENDATIONS</b> Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 20 gallons per acre when applied by ground; use a minimum of 10 gallons per acre by air. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.</p> <p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>Do not apply more than 2.8 oz/ acre of Beleaf 50SG (0.088 lbs. ai per acre) per application.</li> <li>Do not apply more than 5.6 oz/ acre of Beleaf 50SG (0.18 lbs. ai/acre) per year.</li> <li>Do not apply more than 2 applications of Beleaf 50SG per year.</li> <li><b>Forage and hay from alfalfa may be utilized after application of Beleaf 50SG Insecticide only as indicated below:</b> <ul style="list-style-type: none"> <li>Alfalfa (Forage, Hay, and Seed) – Do not allow foraging of fields or harvesting for hay within 14 days of the last application.</li> </ul> </li> </ul>		

Warranty and Limitation of Damages: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, the seller warrants to those persons lawfully acquiring title to this product that at the time of first sale of this product by Seller that this product conformed to its chemical description and was reasonably fit for the purposes stated on the label when used in accordance with Seller's directions under normal conditions of use. To the extent consistent with applicable law, Buyers and users of this product assume the risk of any use contrary to such directions. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESS REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OR GUARANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.** In no event shall Seller's liability for any breach of warranty or guaranty exceed the purchase price of the product as to which a claim is made. To the extent consistent with applicable law, buyers and users of this product are responsible for all loss or damage from use or handling of this product which results from conditions beyond the control of Seller, including, but not limited to, incompatibility with other products unless otherwise expressly provided in Directions for Use of this product, weather conditions, cultural practices, moisture conditions or other environmental conditions outside of the ranges that are generally recognized as being conducive to good agricultural and/or horticultural practices.

ISK Biosciences Corporation  
7470 Auburn Rd., Suite A  
Concord, Ohio 44077

