



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

May 24, 2018

Ms. Regiane G. Pereira
Manager, Regulatory Affairs
Nichino America, Inc.
4450 Linden Hill Rd.
Wilmington, DE 19808

Subject: Label Amendment – Split Label to Crop and Greenhouse Use; Various other
Label updates
Product Name: Applaud 70DF Insect Growth Regulator
EPA Registration Number: 71711-21
Application Date: September 14, 2017
Resubmission Date: May 23, 2018
Decision Number: 533323

Dear Ms. Pereira:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is attached for your records. This labeling supersedes all previously accepted labeling. You must submit one 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 the Federal Insecticide Fungicide and Rodenticide Act 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) list 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 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.

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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 Carlyn Petrella by phone at 703-347-0439, or via email at petrella.carlyn@epa.gov.

Sincerely,



Michael Walsh,
Product Manager 11
Invertebrate and Vertebrate Branch 2
Registration Division (7505P)
Office of Pesticide Programs

Attachment

{Sub-label A: Crop-Use}

BUPROFEZIN GROUP 16 INSECTICIDE

NICHINO
AMERICA

ACCEPTED
05/24/2018
Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 71711-21

APPLAUD® 70DF Insect Growth Regulator

ACTIVE INGREDIENT:

Buprofezin: 2-tert-butylimino-3-isopropyl-5-phenyl-1,3,5-thiadiazinan-4-one..... **70.00%**

OTHER INGREDIENTS:..... **30.00%**

TOTAL..... **100.00%**

Contains 0.70 lb. buprofezin per pound of product

EPA Reg. No. 71711-21

EPA Est. No. _____

[Alternate Brand Names: Applaud® Insect Growth Regulator, Centaur® WDG Insect Growth Regulator, and Talus® 70DF Insect Growth Regulator]

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • 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 by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
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 human health concerns and medical emergencies, call 1-800-348-5832.	
NOTE TO PHYSICIAN: There is no specific antidote. All treatment should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.	

Net Contents: _____

[Manufactured in _____,] [formulated in _____,] [and] [packaged in _____] for:

NICHINO AMERICA, INC.

4550 Linden Hill Road

Wilmington, DE 19808

888-740-7700

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

Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

STATEMENTS FOR CONTAMINATED PPE

Follow the 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.

ENGINEERING CONTROLS

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 clothing.

ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirement specific to your State or Tribe, consult the State/Tribal 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, and notifications to workers.

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

For early entry into 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, wear:

- Coveralls
- Waterproof gloves
- Shoes plus socks

PRODUCT INFORMATION

APPLAUD® 70DF insect growth regulator (hereafter referred to as APPLAUD) is effective against the nymphal stages of [whiteflies], [scale], [psylla], [mealybugs], [planthoppers], and [leafhoppers] by inhibiting chitin biosynthesis, suppressing oviposition of adults, and reducing viability of eggs. APPLAUD is not an adulticide. Evidence of activity may be slower than typical contact insecticides as treated susceptible pests may remain alive on the plant for 3-7 days; however, pests have stopped feeding and any feeding damage during this time is typically very low.

APPLAUD is not disruptive to beneficial insects and mites.

APPLAUD is a contact insecticide, so thorough spray coverage is essential. Apply by ground or air in sufficient water volume. Orient nozzles to ensure good coverage. Use of higher volume of water will ensure better coverage, especially under adverse conditions such as hot, dry weather, and/or a dense canopy. The entire field should be treated. Apply when economic infestations occur based on local information.

Not for Sale, Sale Into, Distribution, and/or Use in Nassau and Suffolk Counties of New York State.

INSECTS CONTROLLED

- **Whiteflies:** Ash whitefly, Bandedwinged whitefly, Greenhouse whitefly, Silverleaf whitefly, Sweetpotato whitefly

{Sub-label A: Crop-Use}

- **Mealybugs:** Apple mealybug, Citrus mealybug, Comstock mealybug, Gill's mealybug, Grape mealybug, Longtailed mealybug, Madeira mealybug, Mexican mealybug, Obscure mealybug, Striped mealybug, Vine mealybug
- **Leafhoppers and Planthoppers:** Brown planthopper, Cherry leafhopper, Eastern grape leafhopper, Glassy-winged sharpshooter, Potato leafhopper, Variegated leafhopper, Western grape leafhopper, White apple leafhopper
- **Pear Psylla**
- **Scales**
 - **Armored Scales:** Boisduval scale, Cactus scale, California red scale, Coconut scale, Fern scale, Florida red scale, Oystershell scale, San Jose scale, Walnut scale
 - **Margarodid Scale:** Cottony cushion scale
 - **Soft Scales:** Barnacle scale, Black scale, Brown soft scale, Citricola scale, European fruit lecanium scale, False oleander scale, Frosted scale, Hemispherical scale, Indian wax scale and other wax scales, Tessellated scale, White peach scale

USE RESTRICTIONS

- Do not apply this product through any type of irrigation system.

ROTATIONAL CROP RESTRICTIONS

CROP	PLANTBACK TIMING
All crops registered for use with buprofezin	0 days following application
Cereal grains	30 days following application
All other crops	60 days following application

RESISTANCE MANAGEMENT

For resistance management, APPLAUD contains a Group 16 insecticide. Any insecticide population may contain individuals naturally resistant to APPLAUD and other Group 16 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 delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of APPLAUD or other Group 16 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- 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.

{Sub-label A: Crop-Use}

- 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 Nichino America representatives at 888-740-7700.

APPLICATION DIRECTIONS

Applications should be made immediately after the spray solution is prepared. Thorough spray coverage is essential for effective control. Applications may be made with high or low volume spray equipment that provides thorough coverage of the plant. Apply with properly calibrated spray equipment. For best results, apply when pest populations are beginning to build, before reaching economic thresholds. Consult your local agricultural advisor or state cooperative extension service for recommendations.

MIXING DIRECTIONS

Keep agitation running during filling and spraying operations. If spraying must be stopped before emptying the sprayer, resume agitation before spraying the remainder of the load. Mix only as much spray solution as can be sprayed within four hours. Storage and use of the previous day's spray mix may result in reduced activity.

APPLAUD ALONE: Fill spray tank with $\frac{3}{4}$ of the amount of water needed for the intended application and then turn on agitation. Pour recommended amount of product on the surface of water in the spray tank. Add the balance of the water to the spray tank with agitation running.

APPLAUD TANK MIXTURES: Begin with clean equipment. Fill spray tank with $\frac{3}{4}$ of the amount of water needed for the intended application and turn on agitation. If using a buffering agent, add after filling the tank with $\frac{3}{4}$ amount of water. Do not use oil as carrier or include other additives in the finished spray.

Add the recommended amount of tankmix products in the following order while maintaining agitation:

- 1) products in water-soluble packets
- 2) wettable powders
- 3) water-dispersible granulars and/or soluble powders

{Sub-label A: Crop-Use}

- 4) flowable liquids
- 5) emulsifiable concentrates
- 6) adjuvants and/or oils
- 7) remaining amount of water to achieve the desired level

Note: It is recommended that the compatibility of APPLAUD in any tankmix combination be tested before use. To determine the physical compatibility with other products, use a jar test, as described below:

Using a quart (qt) jar, add the proportionate amounts of the products to 1 qt. of water. Add wettable powders and water-dispersible granular products first, then flowable liquids, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure to adding required ingredients to the spray tank.

Read and follow all label directions for each tankmix product. Always use in accordance with the most restrictive of label precautions and limitations.

SPRAY DRIFT REDUCTION MANAGEMENT

Do not apply when wind speed favors drift beyond the area intended for treatment. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

Importance of Droplet Size

An important factor influencing drift is droplet size. Small droplets (<150 - 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications should be made to deliver the largest droplet spectrum that provides sufficient control and coverage. Use only Medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

Ground Applications

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application. For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy. For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two (2) rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Aerial Applications

The spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices.

The minimum practical boom length should be used, and must not exceed 75% of the wing span or 80% rotor diameter. Flight speed and nozzle orientation must be considered in determining droplet size.

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

{Sub-label A: Crop-Use}

required for aircraft safety. When applications are made with a cross-wind, the swath will be displaced downwind.

The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

Wind Speed Restrictions

Drift potential increases at wind velocities of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. Only apply this product if the wind direction favors on-target deposition. Do not apply when wind velocity exceeds 15 mph and avoid gusty and windless conditions.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Restrictions During Temperature Inversions

Do not make ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by stable air and increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by mist or ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally near the ground surface in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

**APPLICATION RATE CHART FOR
APPLAUD**

Acerola; Atemoya; Avocado; Biriba; Cherimoya; Custard Apple; Feijoa; Guava; Ilima; Jaboticaba; Passion Fruit; Soursop; Starfruit; Sugar Apple; Wax Jambu		
Pest	Rate/Acre	Directions for Use
Scales	34.5 oz/acre (1.5 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 20 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre.
Leafhoppers Mealybugs Whiteflies	9.0 to 12.0 oz/acre (0.40 to 0.53 lb ai/acre)	<p>USE RESTRICTIONS Limited to Florida, Hawaii, and Puerto Rico</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 14 days between applications. • Do not apply more than 69.0 oz of product per acre per growing season. • Do not apply more than 3.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 21 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Mealybugs: Application should be made when early crawler emergence occurs. • Scales: Apply at early crawler emergence. • Thorough spray coverage is essential.

{Sub-label A: Crop-Use}

Black Sapote; Canistel; Mamey Sapote; Mango; Papaya; Sapodilla; Star Apple		
Pest	Rate/Acre	Directions for Use
Leafhoppers Mealybugs Scales Whiteflies	9.0 to 12.0 oz/acre (0.40 to 0.53 lb ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 20 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS Limited to Florida, Hawaii, and Puerto Rico</p> <ul style="list-style-type: none"> • Do not make more than 5 applications per growing season • Allow at least 14 days between applications. • Do not apply more than 45.0 oz of product per acre per growing season. • Do not apply more than 1.97 lbs ai per acre per growing season. • Preharvest Interval (PHI): 3 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Mealybugs: Application should be made when early crawler emergence occurs. • Scales: Apply at early crawler emergence. • Thorough spray coverage is essential.

Banana		
Pest	Rate/Acre	Directions for Use
Leafhoppers Mealybugs Scales Whiteflies	7.0 oz/acre (0.31 lb ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 15 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 4 applications per growing season. • Allow at least 14 days between applications. • Do not apply more than 27.0 oz of product per acre per growing season. • Do not apply more than 1.18 lbs ai per acre per growing season. • Preharvest Interval (PHI): 1 day <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Treatment should be applied when population level reaches economic threshold. Consult local or state agricultural authorities for details. • Thorough spray coverage is essential. Use of a higher volume of water will ensure better coverage, especially under adverse conditions, such as hot, dry weather and/or a dense canopy.

Citrus Fruits (Crop Group 10) calamondin; citrus, citron; citrus hybrids (including chironja, tangelo, tangor); clementine; grapefruit; kumquat; lemon; lime; mandarin; orange, sour; orange, sweet; pummelo; satsuma mandarin; tangerine		
Pest	Rate/Acre	Directions for Use
Black scale California red scale Citricola scale Cottony cushion scale Glassy-winged sharpshooter Mealybugs Wax scale	34.5 to 46.0 oz/acre (1.5 to 2.0 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 500 gallons of water per acre. • Apply with sufficient water volume according to tree size. • Thorough spray coverage of the fruit, foliage, and wood is essential for maximum results. • When using the minimum water volume, trees must not exceed 10 feet tall, tree canopy must be opened up, and tractor speed must not exceed 1.5 miles per hour. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not apply more than 92.0 oz of product per acre per growing season. • Do not apply more than 4.0 lbs ai per acre per growing season. • Do not make more than 2 applications per growing season. • Allow at least 60 days between applications. • Preharvest Interval (PHI): 3 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Red scale: Applications should begin at early crawler emergence. • Citricola scale: Apply after complete crawler hatch. Spring applications can provide suppression and minimize honeydew accumulation. • Cottony cushion scale: Applications should occur after complete crawler hatch. • All other pests: Application should be made when early crawler emergence occurs. • Thorough spray coverage is essential.

{Sub-label A: Crop-Use}

Citrus Fruits (Crop Group 10) - For Florida and Texas Only		
calamondin; citrus, citron; citrus hybrids (including chironja, tangelo, tangor); clementine; grapefruit; kumquat; lemon; lime; mandarin; orange, sour; orange, sweet; pummelo; satsuma mandarin; tangerine		
Pest	Rate/Acre	Directions for Use
Soft scales Armored scales	34.5 to 46.0 oz/acre (1.5 to 2.0 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 250 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS Limited to Florida and Texas only.</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 60 days between applications. • Do not apply more than 92.0 oz of product per acre per growing season. • Do not apply more than 4.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 3 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Thorough coverage is essential for optimum control. • Choice of water volume should be based on tree canopy size and location of the scale insect within the tree canopy. • Applications should be made at the beginning of crawler hatch and emergence.

Coffee		
Pest	Rate/Acre	Directions for Use
Mealybugs Scales	23.0 oz/acre (1.0 lb ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 50 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 4 applications per growing season. • Allow at least 14 days between applications. • Do not apply more than 91.0 oz of product per acre per growing season. • Do not apply more than 4.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 0 day <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Treatment should be applied when population level reaches economic threshold. • Thorough spray coverage is essential.

{Sub-label A: Crop-Use}

Grape		
Pest	Rate/Acre	Directions for Use
European fruit lecanium scale	12.0 oz/acre (0.53 lb ai/acre)	<ul style="list-style-type: none"> • Apply by ground using a minimum of 50 gallons of water per acre. Water volumes should be adjusted based on the size of the grape canopy. Higher water volumes should be used for dense canopies. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 14 days between applications.
Leafhoppers Mealybugs	9.0 to 12.0 oz/acre (0.40 to 0.53 lb ai/acre)	<ul style="list-style-type: none"> • Do not apply more than 24.0 oz of product per acre per growing season. • Do not apply more than 1.05 lbs ai per acre per growing season. • Preharvest Interval (PHI): 7 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Leafhoppers: Apply when majority of the population is at the early nymphal stage. • Mealybugs: Application should be made when early crawler emergence occurs. Thorough spray coverage is essential. Orient nozzles to ensure good coverage. Use of a higher volume of water will ensure better coverage, especially under adverse conditions, such as hot, dry weather and/or a dense canopy.
Mealybugs	24.0 oz/acre (1.05 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground using a minimum of 50 gallons of water per acre. Water volumes should be adjusted based on the size of the grape canopy. Higher water volumes should be used for dense canopies. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS This application rate allowed in California and Arizona only.</p> <ul style="list-style-type: none"> • Do not apply more than 24.0 oz of product per acre per growing season. • Do not apply more than 1.05 lbs ai per acre per growing season. • Preharvest Interval (PHI): 30 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Mealybugs: Application should be made when early crawler emergence occurs. • Thorough spray coverage is essential. Orient nozzles to ensure good coverage. Use of a higher volume of water will ensure better coverage, especially under adverse conditions, such as hot, dry weather and/or a dense canopy.

{Sub-label A: Crop-Use}

Longan; Lychee; Pulasan; Rambutan; Spanish Lime		
Pest	Rate/Acre	Directions for Use
Scales	34.5 oz/acre (1.5 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 75 gallons per acre spray volume. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 14 days between applications. • Do not apply more than 69.0 oz of product per acre per growing season. • Do not apply more than 3.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 21 days

Olive		
Pest	Rate/Acre	Directions for Use
Scales	34.5 to 46.0 oz/acre (1.5 to 2.0 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using 110 to 500 gallons per acre spray volume. Apply in sufficient water volume to provide adequate coverage for tree size. Thorough coverage is critical for adequate control. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 50 days between applications. • Do not apply more than 92.0 oz of product per acre per growing season. • Do not apply more than 4.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 21 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Black scale: Applications should occur after complete crawler hatch. • All other scales: Apply at early crawler emergence. • Thorough spray coverage is essential. Orient nozzles to ensure good coverage. Use of a higher volume of water will ensure better coverage, especially under adverse conditions, such as hot, dry weather and/or a dense canopy.

{Sub-label A: Crop-Use}

Pear and Asian Pear		
Pest	Rate/Acre	Directions for Use
Mealybugs Pear psylla Scales	34.5 to 46.0 oz/acre (1.5 to 2.0 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 80 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 7 days between applications. • Do not apply more than 69.0 oz of product per acre per growing season. • Do not apply more than 3.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 14 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Pear Psylla: For best results of controlling 1st and 2nd instars, apply pre-bloom or at petal fall. In-season, apply early when smaller pear psylla nymphs are present. For best results, tankmix with an adulticide. • Mealybugs or San Jose scale: Apply pre-bloom or at first crawler emergence. • Other scales: Apply at first crawler emergence. • Thorough spray coverage is essential. • Phytotoxicity may occur in Asian Pear varieties, normally limited to applications made prior to petal fall.

Persimmon		
Pest	Rate/Acre	Directions for Use
Mealybugs Soft Scales European Fruit Lecanium Scale Frosted Scale	34.5 oz/acre (1.5 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground using a minimum of 100 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Do not apply more than 69.0 of product oz per acre per growing season. • Do not apply more than 3.0 lbs ai per acre per growing season. • Allow at least 14 days between applications. • Preharvest Interval (PHI): 14 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Mealybugs: Application should be made at the beginning of crawler emergence. • Scales: Application should be made at the beginning of crawler emergence of the scale generation being targeted.

Pome Fruits (Crop Group 11-10) – Except Pear and Asian Pear (See Application Rate Chart for Pear and Asian Pear) apple, azarole, crabapple, loquat, mayhaw, medlar, quince, quince (Chinese), quince (Japanese), tejocote, cultivars, varieties and/or hybrids of these.		
Pest	Rate/Acre	Directions for Use
Leafhoppers	9.0 to 12.0 oz/acre (0.40 to 0.53 lb ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 80 gallons of water per acre. For low-volume sprayers, use a minimum of 20 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre.
Mealybugs Scales	34.5 oz/acre (1.5 lbs ai/acre)	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 1 application per growing season. • Do not apply more than 34.5 oz of product per acre per growing season. • Do not apply more than 1.5 lbs ai per acre per growing season. • Preharvest Interval (PHI): 14 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • San Jose scale: Application can be made at dormant, delayed dormant, pre-bloom or in-season at early crawler emergence. • Other scales: Apply at early crawler emergence. • Mealybugs: Application should be made from dormant, delayed dormant to petal fall when nymphs are present. Apply in-season at early crawler emergence. • Thorough spray coverage is essential.

{Sub-label A: Crop-Use}

Pomegranate		
Pest	Rate/Acre	Directions for Use
Whiteflies	12.0 to 34.5 oz/acre (0.53 to 1.5 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 50 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre.
Mealybugs Scales	34.5 to 46.0 oz/acre (1.5 to 2.0 lbs ai/acre)	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 14 days between applications. • Do not apply more than 69.0 oz of product per acre per growing season. • Do not apply more than 3.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 14 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Brown soft scale: Application can be made at dormant timing, targeting the overwintering population or at crawler emergence. • San Jose scale: Application can be made at dormant, delayed dormant, pre-bloom or in-season at early crawler emergence. • Other scales: Apply at early crawler emergence. • Mealybugs: Application should be made when early crawler emergence occurs. • Whiteflies: Apply at early nymph threshold. • Thorough spray coverage is essential.

Stone Fruits (Crop Group 12) apricot; cherry, sweet; cherry, tart; nectarine; peach; plum; plum, chickasaw; plum, damson; plum, Japanese; plumcot; prune (fresh)		
Pest	Rate/Acre	Directions for Use
Mealybugs Scales	34.5 oz/acre (1.5 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 50 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 2 applications per growing season. • Allow at least 14 days between applications. • Do not apply more than 69.0 oz of product per acre per growing season. • Do not apply more than 3.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 14 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Mealybugs: Application should be made when early crawler emergence occurs. • San Jose scale: Application can be made at dormant, delayed dormant, or pre-bloom when scale is in the black cap stage, or in-season at early crawler emergence. • Other scales: Apply at early crawler emergence. • Thorough spray coverage is essential.

Tree Nuts (Crop Group 14) Plus Pistachio almond; beechnut; brazil nut; butternut; cashew; chestnut; chinquapin; filbert; hickory nut; macadamia nut; pecan; walnut (black and English)		
Pest	Rate/Acre	Directions for Use
Mealybugs Scales	34.5 to 46.0 oz/acre (1.5 to 2.0 lbs ai/acre)	<ul style="list-style-type: none"> • Apply by ground application using a minimum of 100 gallons of water per acre. • For aerial applications, apply in a minimum finished spray volume of 5 gallons per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not make more than 1 application per growing season. • Do not apply more than 46.0 oz of product per acre per growing season. • Do not apply more than 2.0 lbs ai per acre per growing season. • Preharvest Interval (PHI): 60 days <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Mealybugs: Application should be made when early crawler emergence occurs. • San Jose scale: Application can be made at dormant or delayed dormant when scale is in the black cap stage, or in-season at early crawler emergence. • Other scales: Apply at early crawler emergence or when scales are at a susceptible early nymphal stage. • Thorough spray coverage is essential.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container, unopened, in a cool, dry place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

[Nonrefillable plastic container less than 50 pounds]

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Do not burn, unless allowed by state and local ordinances. In most states, burning is not allowed.

[Nonrefillable plastic container greater than 50 pounds]

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat the procedure two more times.

Alternatively, for pressure rinsing, pressure rinse as follows: Empty the remaining contents into application equipment or mix tank. Hold container upside down over application equipment or a mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

[Nonrefillable paper and plastic bags]

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not burn, unless allowed by state and local ordinances. In most states, burning is not allowed.

In case of fire or spills, information may be obtained by calling 1-800-424-9300.

IMPORTANT: READ BEFORE USE

By using this product, user or buyer accepts the following conditions, warranty, disclaimer of warranties, and limitations of liability.

CONDITIONS: The directions for use of this product are believed to be accurate and must be followed carefully. However, because of extreme weather and soil conditions, use methods and other factors beyond the control of Nichino America, Inc. (NAI), it is impossible for NAI to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. To the extent consistent with applicable law, all such risks are assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of NAI is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, NAI disclaims any liability whatsoever for incidental or consequential damages, including, but not limited to, liability arising out of breach of contract, express or implied warranty (including warranties of merchantability and fitness for a particular purpose), tort, negligence, strict liability, or otherwise.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT THE ELECTION OF NICHINO AMERICA, THE REPLACEMENT OF PRODUCT.

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052318

BUPROFEZIN GROUP 16 INSECTICIDE



APPLAUD® 70DF Insect Growth Regulator

ACTIVE INGREDIENT:

Buprofezin: [2-tert-butylimino-3-isopropyl-5-phenyl-1,3,5-thiadiazinan-4-one] **70.00%**

OTHER INGREDIENTS: **30.00%**

TOTAL **100.00%**

Contains 0.70 lb. buprofezin per pound of product

EPA Reg. No. 71711-21

EPA Est. No. _____

[Alternate Brand Names: Applaud® Insect Growth Regulator, Centaur® WDG Insect Growth Regulator, and Talus® 70DF Insect Growth Regulator]

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • 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 by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
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 human health concerns and medical emergencies, call 1-800-348-5832.	
NOTE TO PHYSICIAN: There is no specific antidote. All treatment should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.	

Net Contents: _____

[Manufactured in _____,] [formulated in _____,] [and] [packaged in _____] for:

NICHINO AMERICA, INC.
4550 Linden Hill Road
Wilmington, DE 19808
888-740-7700

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

Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

STATEMENTS FOR CONTAMINATED PPE

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

ENGINEERING CONTROLS

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 clothing.

ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

For early entry into 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, wear:

- Coveralls
- Waterproof gloves
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or greenhouses. For other uses, including golf courses and other nonagricultural uses, do not enter treated areas without protective clothing until sprays have dried.

PRODUCT INFORMATION

APPLAUD® 70DF insect growth regulator (hereafter referred to as APPLAUD) is effective against the nymphal stages of [whiteflies], [scales], [psylla], [mealybugs], [planthoppers], and [leafhoppers] by inhibiting chitin biosynthesis, suppressing oviposition of adults, and reducing viability of eggs. APPLAUD is not an adulticide. Evidence of activity may be slower than typical contact insecticides as treated susceptible pests may remain alive on the plant for 3-7 days; however, pests have stopped feeding and any feeding damage during this time is typically very low.

APPLAUD is not disruptive to beneficial insects and mites.

APPLAUD is a contact insecticide, so thorough spray coverage is essential. Apply by ground or air in sufficient water volume. Orient nozzles to ensure good coverage. Use of higher volume of water will ensure better coverage, especially under adverse conditions such as hot, dry weather, and/or a dense canopy. The entire field should be treated. Apply when economic infestations occur based on local information.

Not for Sale, Sale Into, Distribution, and or Use in Nassau and Suffolk Counties of New York State.

INSECTS CONTROLLED

- **Whiteflies:** Ash whitefly, Bandedwinged whitefly, Greenhouse whitefly, Silverleaf whitefly, Sweetpotato whitefly

{Sub-label B: Greenhouse Food-Use and Ornamental Plants}

- **Mealybugs:** Apple mealybug, Citrus mealybug, Comstock mealybug, Gill's mealybug, Grape mealybug, Longtailed mealybug, Madeira mealybug, Mexican mealybug, Obscure mealybug, Striped mealybug, Vine mealybug
- **Leafhoppers and Planthoppers:** Brown planthopper, Cherry leafhopper, Eastern grape leafhopper, Glassy-winged sharpshooter, Potato leafhopper, Variegated leafhopper, Western grape leafhopper, White apple leafhopper
- **Pear Psylla**
- **Scales**
 - **Armored Scales:** Boisduval scale, Cactus scale, California red scale, Coconut scale, Fern scale, Florida red scale, Oystershell scale, San Jose scale, Walnut scale
 - **Margarodid Scale:** Cottony cushion scale
 - **Soft Scales:** Barnacle scale, Black scale, Brown soft scale, Citricola scale, European fruit lecanium scale, False oleander scale, Frosted scale, Hemispherical scale, Indian wax scale and other wax scales, Tessellated scale, White peach scale

USE RESTRICTIONS

- Do not apply this product through any type of irrigation system.
- Not for use in Residential greenhouses.

ROTATIONAL CROP RESTRICTIONS

CROP	PLANTBACK TIMING
All crops registered for use with buprofezin	0 days following application
All other crops	60 days following application

RESISTANCE MANAGEMENT

For resistance management, APPLAUD contains a Group 16 insecticide. Any insecticide population may contain individuals naturally resistant to APPLAUD and other Group 16 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 delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of APPLAUD or other Group 16 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- 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).

{Sub-label B: Greenhouse Food-Use and Ornamental Plants}

- 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 Nichino America representatives at 888-740-7700.

APPLICATION DIRECTIONS

Applications should be made immediately after the spray solution is prepared. Thorough spray coverage is essential for effective control. Applications may be made with high, low or ultra-low volume spray equipment that provides thorough coverage of the plant. Apply with properly calibrated spray equipment. For best results, apply when pest populations are beginning to build, before reaching economic thresholds. Consult your local agricultural advisor or state cooperative extension service for recommendations.

MIXING DIRECTIONS

Keep agitation running during filling and spraying operations. If spraying must be stopped before emptying the sprayer, resume agitation before spraying the remainder of the load. Mix only as much spray solution as can be sprayed within four hours. Storage and use of the previous day's spray mix may result in reduced activity.

APPLAUD ALONE: Fill spray tank with $\frac{3}{4}$ of the amount of water needed for the intended application and then turn on agitation. Pour recommended amount of product on the surface of water in the spray tank. Add the balance of the water to the spray tank with agitation running.

APPLAUD TANK MIXTURES: Begin with clean equipment. Fill spray tank with $\frac{3}{4}$ of the amount of water needed for the intended application and turn on agitation. If using a buffering agent, add after filling the tank with $\frac{3}{4}$ amount of water. Do not use oil as carrier or include other additives in the finished spray.

Add the recommended amount of tankmix products in the following order while maintaining agitation:

- 1) products in water-soluble packets
- 2) wettable powders
- 3) water-dispersible granulars and/or soluble powders
- 4) flowable liquids
- 5) emulsifiable concentrates

{Sub-label B: Greenhouse Food-Use and Ornamental Plants}

6) adjuvants and/or oils

7) remaining amount of water to achieve the desired level

Note: It is recommended that the compatibility of APPLAUD in any tankmix combination be tested before use. To determine the physical compatibility with other products, use a jar test, as described below:

Using a quart (qt) jar, add the proportionate amounts of the products to 1 qt. of water. Add wettable powders and water-dispersible granular products first, then flowable liquids, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure to adding required ingredients to the spray tank.

Read and follow all label directions for each tankmix product. Always use in accordance with the most restrictive of label precautions and limitations.

SPRAY DRIFT REDUCTION MANAGEMENT

Do not apply when wind speed favors drift beyond the area intended for treatment. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

Importance of Droplet Size

An important factor influencing drift is droplet size. Small droplets (<150 - 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications should be made to deliver the largest droplet spectrum that provides sufficient control and coverage. Use only Medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

Ground Applications

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application. For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy. For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two (2) rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Wind Speed Restrictions

Drift potential increases at wind velocities of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. Only apply this product if the wind direction favors on-target deposition. Do not apply when wind velocity exceeds 15 mph and avoid gusty and windless conditions.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Restrictions During Temperature Inversions

Do not make ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by stable air and increasing temperatures with

{Sub-label B: Greenhouse Food-Use and Ornamental Plants}

altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by mist or ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally near the ground surface in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

**APPLICATION RATE CHART FOR
APPLAUD**

Greenhouse Tomatoes		
Pests	Rate/Acre	Directions for Use
Leafhoppers Mealybugs Planthoppers	9.0 oz/acre (0.56 lbs product/acre) (0.40 lbs ai/acre)	<ul style="list-style-type: none"> • For greenhouse tomatoes, apply by ground on 2 acre minimum with 20 gallons of water per acre. <p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Apply no more than 2 applications per growing cycle. • Allow at least 5 days between applications. • Do not apply more than 18.0 oz (1.12 lbs) per acre per growing cycle.
Whiteflies	6.0 to 9.0 oz/acre (0.38 to 0.56 lbs product/acre) (0.26 to 0.40 lbs ai/acre)	<ul style="list-style-type: none"> • Preharvest Interval (PHI): 1 day <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Treatment should be applied when population level reaches economic threshold. Consult local and state agricultural authorities for details. • Apply in sufficient water to obtain complete coverage of all plant parts. Good coverage is essential. • Applications may be made with high volume, low volume or ultra-low volume (thermal and non-thermal foggers, misters, etc.) ground equipment only. Follow the spray equipment manufacturer's directions to determine the amount of spray solution required to obtain thorough coverage. Consult the spray equipment manufacturer's operator's manual, spray nozzle catalogs and/or your crop advisor for more information.

{Sub-label B: Greenhouse Food-Use and Ornamental Plants}

Ornamental Plants		
in greenhouses; lath and shadehouses; nurseries; landscape ornamentals; ground covers; field-and container-grown ornamentals; non-bearing fruit and nut trees and vines in nurseries; Christmas trees		
Pests	Rate/Acre	Directions for Use
Leafhoppers Mealybugs Planthoppers	12.0 oz/acre (0.75 lbs product/acre) (0.53 lbs ai/acre)	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Make no more than 2 applications per crop per growing season. • Do not apply more than 28.0 oz (1.76 lbs) per acre per growing cycle. <p>RECOMMENDATIONS</p> <ul style="list-style-type: none"> • Applications may be made with high volume, low volume or ultra-low volume (thermal and non-thermal foggers, misters, etc.) ground equipment only. Follow the spray equipment manufacturer's directions to determine the amount of spray solution required to obtain thorough coverage. Consult the spray equipment manufacturer's operator's manual, spray nozzle catalogs and/or your crop advisor for more information. • Apply the specified dosage as a foliar spray in sufficient water for complete, uniform coverage, including stems and underside of leaves. Spray to the point of runoff. • Whiteflies, Leafhoppers or Planthoppers: Make first application as soon as adult insects begin to appear. • Mealybugs: Make first application as soon as insect activity is observed. • Scales: Make first application when crawlers are emerging. • If additional insecticide applications are required for control, use another class of chemistry or a different Insect Growth Regulator (IGR) with a different mode of action before making subsequent applications of buprofezin. • Consult local or state agricultural authorities for details concerning economic thresholds for each target pest.
Scales	14.0 oz/acre (0.88 lbs product/acre) (0.61 lbs ai/acre)	
Whiteflies	6.0 oz/acre (0.38 lbs product/acre) (0.26 lbs ai/acre)	

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container, unopened, in a cool, dry place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

[Nonrefillable plastic container less than 50 pounds]

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Do not burn, unless allowed by state and local ordinances. In most states, burning is not allowed.

[Nonrefillable plastic container greater than 50 pounds]

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat the procedure two more times.

Alternatively, for pressure rinsing, pressure rinse as follows: Empty the remaining contents into application equipment or mix tank. Hold container upside down over application equipment or a mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

[Nonrefillable paper and plastic bags]

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not burn, unless allowed by state and local ordinances. In most states, burning is not allowed.

In case of fire or spills, information may be obtained by calling 1-800-424-9300.

IMPORTANT: READ BEFORE USE

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