

RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certification.

GROUP 3 INSECTICIDE

LUNGE™ INSECTICIDE

ACTIVE INGREDIENT:

Lambda-Cyhalothrin 23.15%

OTHER INGREDIENTS: 76.85%

TOTAL: 100.00%

This product contains 2.08 lbs. of active ingredient per gallon and is a capsule suspension.

Contains Petroleum Distillates

EPA Reg. No. 70506-348

KEEP OUT OF THE REACH OF CHILDREN

WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF SWALLOWED	<ul style="list-style-type: none">• Immediately call a poison control center or doctor.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give any liquid to the person.• Do not give anything by mouth to an unconscious person.
IF 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 IN EYES	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
IF INHALED	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice.
Note to Physician: Contains petroleum distillates. Vomiting may cause aspiration pneumonia.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL ROCKY MOUNTAIN POISON AND DRUG SAFETY 1-866-673-6671.	

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

Net Contents: _____ Gallons

INSECTICIDE

UPL NA Inc. • 630 Freedom Business Center, Suite 402
King of Prussia, PA 19406 U.S.A. • 1-800-438-6071



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

May be fatal if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of barrier laminate or butyl rubber or nitrile rubber or viton
- Protective eyewear

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

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:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife.

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 apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater.

This product is highly toxic to bees and other pollinating insects exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees or other pollinating insects are foraging the treatment area.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

SHAKE WELL BEFORE USING.

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

This labeling must be in the possession of the user at the time of application.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 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
- Shoes plus socks
- Chemical-resistant gloves made of barrier laminate or butyl rubber or nitrile rubber or viton.
- Protective eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep adults, children and pets off treated areas until spray has dried following the application.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR INSECT CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

PRODUCT INFORMATION

Initial and residual control are contingent upon thorough crop coverage. Apply with ground or aerial equipment using sufficient water to obtain full coverage of foliage. Apply in a minimum of 2 gallons per acre by air or 10 gallons per acre by ground unless otherwise specified in this label. When foliage is dense or pest pressure is high (heavier insect or egg pressure, larger larval stages), use of higher listed application volumes and/or higher listed use rates may improve initial and residual control.

For cutworm control, LUNGE™ Insecticide may be applied before, during, or after planting. For soil-incorporated applications, use higher listed rates for improved control.

RESISTANCE MANAGEMENT

LUNGE Insecticide is a Group 3 Insecticide (contains the active ingredient lambda-cyhalothrin). Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

SPRAY DRIFT PRECAUTIONS

BUFFER ZONES

Vegetative Buffer Strip

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

Only apply products containing LUNGE Insecticide onto fields where a main-tained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

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

Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21 pp. www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf

In the State of New York, a 25 ft. vegetated, non-cropped buffer strip untraversed by drainage tiles must be maintained between a treated field and a coastal salt marsh or stream that drains into a coastal salt marsh, for both aerial or ground application. For aerial applications, the 25 ft. vegetated non-cropped buffer strip for runoff protection would be part of the larger 150 ft. buffer strip (or 450 ft. buffer strip for ULV application) required for spray drift.

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

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

Buffer Zone for ULV Aerial Application

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

Buffer Zone for Non-ULV Aerial Application

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

SPRAY DRIFT REQUIREMENTS

Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph.

Temperature Inversion

Do not make aerial or ground applications into temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

Droplet Size

Use only medium or 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.

Additional Requirements for 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 rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Additional Requirements for Aerial Applications

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor 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 required for aircraft safety.

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

TANK MIX APPLICATION

When tank mixing with any other agricultural products, LUNGE Insecticide may be added last to avoid nozzle plugging. Fill the tank with 1/2 - 2/3 volume of the mixing diluent. All other products should be fully dispersed in the mixing diluent before adding the recommended rate of LUNGE Insecticide to the tank. Add the remainder of the mixing diluent volume. It is recommended that mixing and spray equipment have continuous agitation for best results. Follow the precautions and limitations of the most restricted product in the tank mixture.

While LUNGE Insecticide has good flexibility for tank mixing with other agricultural products, a jar test for physical compatibility is recommended for untried mixtures, using proper ratios and mixing sequences of all ingredients to be included in the mixture. Do not mix or allow contact with oxidizing agents or reducing agents. Hazardous chemical reaction may occur.

LUNGE Insecticide is an aqueous based formulation. It is recommended that no type of non-emulsifiable oils be used in combination with LUNGE Insecticide. If adjuvants are used, use only:

- Nonionic Surfactant (NIS) containing at least 75% surface agent, or
- Nonphytotoxic Crop Oil Concentrate (COC), including once-refined Vegetable Oil Concentrate (VOC), or,
- Methylated Sunflower Oils (MSO) containing a minimum of 17% emulsifier.

Adjuvants other than NIS or COC may be used providing the product meets the following criteria:

1. Contains only EPA exempt ingredients.
2. Is nonphytotoxic to the target crop.
3. Is compatible in mixture. (May be established through a jar test.)
4. Is supported locally for use with LUNGE Insecticide on the target crop through proven field trials and through university and extension recommendations.

In addition, the following may be used as diluents:

- Crop Oil Concentrate
- Methylated Sunflower Oils
- Urea-Ammonium Nitrate

It is recommended that the following not be used in combination with LUNGE Insecticide as diluents or adjuvants:

- Nonemulsifiable oils
- Diesel Fuel
- Straight Mineral Oil

CHEMIGATION

Sprinkler Irrigation Application

Apply LUNGE Insecticide at rates and timing described elsewhere in this label. As local recommendations differ, consult your local State Extension Service or other local experts for recommendations on adjuvant or diluent types, tank mixes, and mixing instructions. These recommendations should be proven, through university and extension field trials, to be effective with LUNGE Insecticide applied by chemigation.

Check the irrigation system to insure uniform application of water to all areas. Thorough coverage of foliage is required for good control. Good agitation in the pesticide supply tank should be maintained prior to and during the entire application period.

Apply by injecting the labeled rate of LUNGE Insecticide into the irrigation system using a metering device that will introduce a constant flow and by distributing the product to the target area in 0.1 - 0.2 acre-inch of water. In general, use the least amount of water required for proper distribution and coverage. It is recommended that the product be injected into the main irrigation line ahead of a right angle turn in the line to insure adequate dispersion or mixing in the irrigation water.

Once the application is completed, flush the entire irrigation and injection system with clean water before stopping the system.

In addition to the above instructions, if application is being made during a normal irrigation set of a stationary sprinkler, the labeled rate of LUNGE Insecticide for the area covered should be injected into the system only during the end of the irrigation set for sufficient time to provide adequate coverage and product distribution.

Use Precautions - Sprinkler Irrigation Applications

1. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
3. If you have any questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers, or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label prescribed safety devices for public water systems are in place.
5. 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.
6. 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 back-flow.
7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
8. 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.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
10. 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.
11. 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 are capable of being fitted with a system interlock.
12. Any alternatives to the above required safety devices must conform to the list of EPA-approved alternative devices.
13. Do not apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.

ALFALFA, ALFALFA GROWN FOR SEED

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Alfalfa Caterpillar Army Cutworm Cutworm spp. Green Cloverworm Leafhopper spp. Looper spp. Threecornered Alfalfa Hopper Velvetbean Caterpillar Webworm spp.	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	Use scouting to determine need for applications. Base the timing and frequency of applications on the timing when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. Apply in at least 2 gals./A by air or 10 gals./A by ground. In situations of dense foliage and/or high pest populations, use 5 - 10 gals./A by air or 20 gals./A by ground and higher listed use rates. Also use higher listed rates for improved residual control. Avoid application when bees are actively foraging by applying during the early morning or during the evening hours. Be aware of bee hazard resulting from a cool evening and/or morning dew. It may be advisable to remove bee shelters during and for 2 - 3 days following application. Avoid direct application to bee shelters.
Alfalfa Seed Chalcid (Adult) Alfalfa Weevil Armyworm Bean Leaf Beetle (Adult) Blister Beetle spp. Blue Alfalfa Aphid Clover Leaf Weevil spp. Clover Root Borer (Adult) Clover Root Curculio spp. (Adult) Clover Stem Borer (Adult) Corn Earworm Cowpea Aphid Cowpea Curculio (Adult) Cowpea Weevil (Adult) Cucumber Beetle spp. (Adult) Egyptian Alfalfa Weevil Fall Armyworm ¹ Grape Colaspis (Adult) Grasshopper spp. Green June Beetle (Adult) Green Peach Aphid ³ Japanese Beetle (Adult) Meadow Spittlebug Mexican Bean Beetle Pea Aphid Pea Weevil (Adult) Plant Bug spp. Including Lygus spp. ³ Spotted Alfalfa Aphid Stink Bug spp. Thrips spp. ⁴ Sweet Clover Weevil (Adult) Western Yellowstriped Armyworm Whitefringed Beetle spp. (Adult) Yellowstriped Armyworm	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	Avoid application when bees are actively foraging by applying during the early morning or during the evening hours. Be aware of bee hazard resulting from a cool evening and/or morning dew. It may be advisable to remove bee shelters during and for 2 - 3 days following application. Avoid direct application to bee shelters. ¹ Use higher listed rates for large larvae. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . ⁴ Does not include Western Flower Thrips. Do not apply more than 0.03 lb. a.i. (0.12 pt. or 1.84 fl. oz. of product)/A per cutting. Do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product)/A per season. Do not apply within 1 day of harvest for forage or within 7 days of harvest for hay.
Beet Armyworm ^{1,3} Blotch Leafminer ³ Spider Mites ²	1.84 fl. oz. (0.03 lb. a.i.)	

CANOLA

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Armyworm spp. Cabbage Seedpod Weevil Cutworm spp. Diamondback Moth Flea Beetle Grasshoppers Looper spp. Lygus Bug	0.92 - 1.84 fl. oz. (0.015 - 0.03 lb. a.i.)	Use scouting to determine need for applications, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by air or ground with enough water to obtain full coverage of foliage. For air applications, apply a minimum of 2 gals. of water/A. Do not apply within 7 days of harvest. Do not apply more than 0.09 lb. a.i. (0.35 pt. or 5.53 fl. oz. of product)/A per year.
Cabbage Aphid	1.84 fl. oz. (0.03 lb. a.i.)	

CEREAL GRAINS – CORN (AT PLANT): FIELD CORN, POPCORN, SEED CORN, SWEET CORN

Pests	Rate Lunge Insecticide per 1,000 ft. of Row ²	Use Directions
Corn Rootworm Larvae (Western, Northern, Southern, Mexican) Cutworm spp. Lesser Cornstalk Borer Red Imported Fire Ant ¹ Seedcorn Beetle Seedcorn Maggot White Grub spp. Wireworm spp. ¹	0.31 fl. oz. (0.005 lb. a.i.)	Do not harvest or graze livestock or cut treated crops for feed within 21 days of at plant application. Do not apply more than 0.09 lb. a.i. (0.35 pt. or 5.53 fl. oz. of product)/A per crop at plant. For field corn, popcorn, and seed corn do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product)/A per crop from at plant and foliar applications. For sweet corn do not apply more than 0.48 lb. a.i. (1.84 pts. or 29.49 fl. oz. of product)/A per crop from at plant and foliar applications. For Banded Applications – Make application at planting as a 5 - 7 inch T-band sprayed across the open seed furrow between the furrow openers and the press wheels or as a band application behind the press wheel. For In-Furrow Applications – Make application into the seed furrow through spray nozzles or microtubes, behind the planter furrow openers and in front of the press wheel. Apply a minimum of 3 gals. finished spray/A. ¹ Suppression only.

² lbs. a.i. and fl. oz./A of LUNGE Insecticide applied at 0.33 fl. oz./1,000 ft. of row for various row spacings.

Row Spacing	40"	38"	36"	34"	32"	30"
Linear ft./A	13,068	13,756	14,520	15,374	16,335	17,424
lbs. a.i./A	0.067	0.07	0.075	0.079	0.084	0.09
fl. oz./A	4.12	4.30	4.61	4.85	5.16	5.53

CEREAL GRAINS – CORN (FOLIAR): FIELD CORN, POPCORN, SEED CORN, SWEET CORN

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Corn Earworm ¹ Cutworm spp. Green Cloverworm Meadow Spittlebug Western Bean Cutworm ¹	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	Use scouting or locally prescribed corn growth stages to determine need for application, usually at intervals of 7 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds or other locally recommended methods. Apply by ground or air using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in at least 2 gals. of water/A.
Armyworm ² Bean Leaf Beetle Bird Cherry-Oat Aphid ³ Cereal Leaf Beetle Corn Leaf Aphid ³ Corn Rootworm Beetle (Adult beetles including Mexican, Northern, Southern, Western) English Grain Aphid ³ European Corn Borer ¹ Fall Armyworm ² Flea Beetle spp. Grasshopper spp. Hop vine Borer ¹ Japanese Beetle (Adult) Lesser Cornstalk Borer Sap Beetle (Adult) Seedcorn Beetle Southwestern Corn Borer ¹ Stalk Borer ¹ Stink Bug spp. Tobacco Budworm ^{1,4} Webworm spp. Yellowstriped Armyworm ²	1.23 - 1.84 fl. oz.	For chinch bug control, begin application when bugs migrate from small grains or grass weeds to small corn and direct the spray to the base of corn plants. Make additional applications at 3 - 5 day intervals if needed. LUNGE Insecticide may only suppress heavy infestations and/or subsequent migrations. For control of adult corn rootworm beetles (<i>Diabrotica</i> spp.) as part of an aerial applied corn rootworm control program use at least 1.84 fl. oz./A (0.03 lb. a.i./A). ¹ For control before the larva bores into the plant stalk or ear. ² Use higher listed rates for large larvae. ³ Suppression only. ⁴ See resistance statement under PRODUCT INFORMATION . Do not apply within 21 days of harvest. Do not allow livestock to graze in treated areas or harvest treated corn forage as feed for meat or dairy animals within 1 day after treatment. Do not feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment. Do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product)/A per crop from at plant and foliar applications. Do not apply more than 0.06 lb. a.i. (0.23 pt. or 3.69 fl. oz. of product) after silk initiation.
Beet Armyworm ⁴ Chinch Bug Green Bug ^{3,4} Mexican Rice Borer ¹ Rice Stalk Borer ¹ Southern Corn Leaf Beetle ³ Sugarcane Borer	1.84 fl. oz. (0.03 lb. a.i.)	Do not apply more than 0.03 lb. a.i. (0.12 pt. or 1.84 fl. oz. of product)/A after corn has reached the milk stage (yellow kernels with milky fluid).

CEREAL GRAINS - SWEET CORN (FOLIAR)

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Aphid spp. ^{2,3} Armyworm ¹ Aster Leafhopper Beet Armyworm ^{1,3} Cereal Leaf Beetle Chinch Bug Common Cornstalk Borer Corn Earworm Corn Rootworm Beetle (Adult beetles including Mexican, Northern, Southern, Western) Cutworm spp. European Corn Borer Fall Armyworm ¹ Flea Beetle spp. Grasshopper spp. Japanese Beetle (Adult) Sap Beetle (Adult) Southern Armyworm ¹ Southwestern Corn Borer Spider Mite spp. ² Stink Bug spp. Tarnished Plant Bug Webworm spp. Western Bean Cutworm Yellowstriped Armyworm ¹	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	¹ Use higher listed rates for large larvae. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . Do not apply within 1 day of harvest. Do not allow livestock to graze in treated areas or harvest treated corn forage as feed for meat or dairy animals within 1 day after last treatment. Do not feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment. Do not apply more than 0.48 lb. a.i. (1.84 pts. or 29.49 fl. oz. of product)/A per crop from at plant and foliar applications. Use scouting or locally prescribed corn growth stages to determine need for application, usually at intervals of 4 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. For best results target control before insects enter the stalk or ear. Apply ground or air using enough water and application methods to obtain full coverage of foliage and ears (if present). When applying by air, apply in at least 2 gals. of water per acre. For control of adult corn rootworm beetles (<i>Diabrotica</i> spp.) as part of an aerial applied corn rootworm control program use a minimum of 0.025 lb. a.i. (1.54 fl. oz.)/A.
Corn Silkfly (Adult) ² Green Bug ^{2,3}	1.84 fl. oz. (0.03 lb. a.i.)	

CEREAL GRAINS – RICE AND WILD RICE

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Bird Cherry-Oat Aphid Chinch Bug Fall Armyworm Grasshopper spp. Green Bug Leafhopper spp. Rice Stink Bug Rice Water Weevil (Adult) Riceworm Sharpshooter spp. True Armyworm Yellow Sugarcane Aphid Yellowstriped Armyworm	1.54 - 2.46 fl. oz. (0.025 - 0.04 lb. a.i.)	¹ For control before the larvae bore into the plant stalk. Do not release flood water within 7 days of application. Do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product)/A per season. Do not apply more than 0.08 lb. a.i. (0.31 pt.)/A within 28 days of harvest or more than 0.04 lb. a.i. (0.15 pt.)/A within 21 days of harvest. Do not apply within 21 days of harvest. Do not use treated rice fields for the aquaculture of edible fish and crustacea. Do not apply as an ultra-low volume (ULV) spray.
European Corn Borer ¹ Mexican Rice Borer ¹ Rice Seed Midge ¹ Sugarcane Borer ¹	1.84 - 2.46 fl. oz. (0.03 - 0.04 lb. a.i.)	

CEREAL GRAINS – SORGHUM (GRAIN)

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cutworm spp. Sorghum Midge	0.92 - 1.23 fl. oz. (0.015 - 0.02 lb. a.i.)	¹ Use higher listed rates for large larvae. ² For control before the larva bores into the plant stalk.
Armyworm Beet Armyworm ³ Corn Earworm European Corn Borer ² Fall Armyworm ¹ Flea Beetle spp. Grasshopper spp. Lesser Cornstalk Borer ² Southwestern Corn Borer ² Stink Bug spp. Webworm spp. Yellowstriped Armyworm ¹	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	³ See resistance statement under PRODUCT INFORMATION . Do not apply more than 0.08 lb. a.i. (0.31 pt. or 4.91 fl. oz. of product)/A per season. Do not apply more than 0.06 lb. a.i. (0.23 pt. or 3.69 fl. oz. of product)/A per season after crop emergence. Do not apply more than 0.02 lb. a.i. (0.08 pt. or 1.23 fl. oz. of product)/A per season once crop is in soft dough stage. Do not apply within 30 days of harvest. Use scouting to determine need for treatment, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water and application methods to obtain full coverage of target location. When applying by air, apply in at least 2 gals. of water/A. For sorghum midge control, make first application when one quarter of the sorghum heads have emerged and are in tip bloom. If needed, repeat applications at 5-day intervals.
Chinch Bug Mexican Rice Borer ² Sugarcane Borer ²	1.84 fl. oz. (0.03 lb. a.i.)	For chinch bug control, start applications when bugs migrate from small grains or grass weeds to small sorghum, directing spray to the base of sorghum plants. If needed, repeat applications at 3 - 5 day intervals. LUNGE Insecticide may only suppress heavy infestations and/or subsequent migrations.

CEREAL GRAINS – WHEAT, WHEAT HAY, TRITICALE, BARLEY, BUCKWHEAT, OATS AND RYE

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Army Cutworm Cutworm spp.	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	¹ Best control is obtained before insects begin to roll leaves. Once crop has started to boot, LUNGE Insecticide may provide suppression only. Higher rates and increased coverage will be necessary.
Aphid ¹ Armyworm Beetle English Bird Cherry-Oat Cereal Leaf Fall Armyworm Flea Beetle spp. Grain Aphid ¹ Grasshopper spp. Hessian Fly ⁴ Orange Blossom Russian Wheat Aphid ¹ Stink Bug spp. Wheat Midge Yellowstriped Armyworm	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . ⁴ Make application when adults emerge. Do not apply within 30 days of harvest. Do not apply more than 0.06 lb. a.i. (0.23 pt. or 3.69 fl. oz. of product)/A per season. Do not allow livestock to graze in treated areas or harvest treated wheat forage as feed for meat or dairy animals within 7 days after treatment. Do not feed treated straw to meat or dairy animals within 30 days after last treatment. Use scouting to determine need for treatment, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds.
Grass Sawfly	1.54 - 1.84 fl. oz. (0.025 - 0.03 lb. a.i.)	Apply by ground or air using enough water and application methods to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A.
Chinch Bug Corn Leaf Aphid ² Greenbug ^{1,3} Mite spp. ²	1.84 fl. oz. (0.03 lb. a.i.)	For chinch bug control, repeat applications at 3 - 5 day intervals if needed. LUNGE Insecticide may only suppress heavy infestations and/or migrations. Because Greenbug is known to have many biotypes, it is possible that LUNGE Insecticide may only provide suppression. If this occurs, a second application using an alternative chemistry may be needed.

COLE CROPS – BROCCOLI, BRUSSELS SPROUTS, CABBAGE, CAVOLO BROCCOLO, CAULIFLOWER, CHINESE BROCCOLI (GAI LON), CHINESE CABBAGE (NAPA), CHINESE MUSTARD CABBAGE (GAI CHOY), KOHLRABI

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Alfalfa Looper Cabbage Looper Cabbage Webworm Cutworm spp. Imported Cabbageworm Southern Cabbageworm	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	¹ For control of first and second instars only. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . Do not apply within 1 day of harvest. Do not apply more than 0.24 lb. a.i. (0.92 pts. or 14.74 fl. oz. of product)/A per season.
Aphid spp. ^{2,3} Armyworm Beet Armyworm ^{1,3} Corn Earworm Diamondback Moth ³ Fall Armyworm ¹ Flea Beetle spp. Grasshopper spp. Japanese Beetle (Adult) Leafhopper spp. Meadow Spittlebug Plant Bug spp. – including Lygus spp. ³ Spider Mite spp. ² Stink Bug spp. Thrips spp. ² Vegetable Weevil (Adult) Whitefly spp. ^{2,3} Yellowstriped Armyworm	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A.

COTTON

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cutworm spp. Soybean Thrips Tobacco Thrips	0.92 - 1.23 fl. oz. (0.015 - 0.02 lb. a.i.)	¹ For control of first and second instars only. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION .
Cabbage Looper Cotton Fleahopper Cotton Leafperforator Cotton Leafworm Lygus Bug spp. ³ Pink Bollworm Saltmarsh Caterpillar	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	Do not apply within 21 days of harvest. Do not graze livestock in treated areas. Do not apply more than 0.2 lb. a.i. (0.77 pts. or 12.29 fl. oz. of product)/A per season. Do not make more than a total of 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season.
Bandedwing Whitefly ^{2,3} Beet Armyworm ^{1,3} Boll Weevil Brown Stink Bug Cotton Aphid ^{2,3} Cotton Bollworm European Corn Borer Fall Armyworm Green Stink Bug Southern Green Stink Bug Sweetpotato Whitefly ^{2,3} Tobacco Budworm ³ Twospotted Spider Mite ²	1.54 - 2.46 fl. oz. (0.025 - 0.04 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 - 7 days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply ground or air using enough water to obtain full coverage of foliage. Applications may also be made with equipment adapted and calibrated for ULV sprays. LUNGE Insecticide may be mixed with once-refined vegetable oil and applied in a minimum of at least one qt. of finished spray/A. When bollworm/budworm infestation levels are light, 0.02 lb. a.i. (1.23 fl. oz. of product)/A may be applied in conjunction with intense field monitoring. For boll weevil, spray on a 3 - 5 day schedule. When applied according to the directions above for control of cotton bollworm and tobacco budworm, LUNGE Insecticide also provides ovicidal control of unhatched <i>Heliothis</i> species eggs.

CUCURBITS – CHAYOTE (FRUIT), CHINESE WAXGOURD, CITRON MELON, CUCUMBER, GHERKIN, GOURD (edible), MOMORDICA spp., MUSKMELON, PUMPKIN, SQUASH (summer and winter), WATERMELON

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Armyworm spp. ¹ Blister Beetle spp. Cabbage Looper Corn Earworm Cricket spp. Cucumber Beetle spp. (Adult) Cutworm spp. Flea Beetle spp. Grasshopper spp. June Beetle spp. Leaffooted Bug Leafhopper spp. Lygus Bug spp. ¹ Melonworm Pickleworm Plant Bug spp. Rindworm species complex Saltmarsh Caterpillar Squash Beetle Squash Bug spp. Squash Vine Borer spp. Stink Bug spp. Thrips spp. ^{1,2} Tobacco Budworm ¹ Webworm spp.	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of solution per acre. When applying by ground, apply in a minimum of 10 gals. of solution per acre. Use higher application volumes and/or listed application rates when foliage is dense, larvae are large, pest populations are high, size of plants increases, or weather conditions are adverse. Use higher listed rates for longer residual. Insects that tunnel or bore into leaves, stems, vines, or fruit must be controlled before penetration. Only insects (larvae and adults) exposed to the product can be controlled with foliar applications of LUNGE Insecticide. ¹ See resistance statement under PRODUCT INFORMATION . ² Western Flower Thrips are not included. ³ Suppression only. Do not apply within 1 day of harvest. Do not apply more than 0.18 lb. a.i. (0.69 pts. or 11.06 fl. oz./A per season.
Aphid spp. ¹ Leafminer spp. ^{1,3} Spider Mite spp. ³ Whitefly spp. ^{1,3}	1.84 fl. oz. (0.03 lb. a.i.)	

FRUITING VEGETABLE – TOMATO, TOMATILLO, PEPPERS (BELL AND NON BELL), EGGPLANT, GROUND CHERRY, PEPINO

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cabbage Looper Cutworm spp. Hornworm spp.	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	¹ For control of first and second instars only. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION .
Aphid spp. ^{2,3} Beet Armyworm ^{1,3} Blister Beetle spp. Colorado Potato Beetle ³ Cucumber Beetle spp. (Adult) European Corn Borer ⁴ Fall Armyworm ¹ Flea Beetle spp. Grasshopper spp. Japanese Beetle (Adult) Leafhopper spp. Leafminer spp. ² Meadow Spittlebug Pepper Weevil (Adult) ² Plant Bug spp. Southern Armyworm ¹ Spider Mite spp. ² Stalk Borer ⁴ Stink Bug spp. Thrips ⁵ Tobacco Budworm ³ Tomato Fruitworm Tomato Pinworm Tomato Psyllid ^{2,3} Vegetable Weevil (Adult) Whitefly spp. ^{2,3} Yellowstriped Armyworm ¹	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	⁴ For control before the larva bores into the plant stalk or fruit. ⁵ Does not include Western Flower thrips. Do not apply within 5 days of harvest. Do not apply more than 0.36 lb. a.i. (1.38 pts. or 22.12 fl. oz. of product)/A per season. Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on the timing when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A.

GRASS FOR FORAGE, FODDER AND HAY – PASTURE AND RANGELAND GRASS, GRASS GROWN FOR HAY OR SILAGE AND GRASS GROWN FOR SEED

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Army Cutworm Cutworm spp. Essex Skipper Range Caterpillar Striped Grass Looper	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	See additional instructions below. ¹ Best control is obtained before insects begin to roll leaves. ² See resistance statement under PRODUCT INFORMATION . ³ Suppression only.
Beet Armyworm Billbug spp. ³ Bird Cherry-Oat Aphid ¹ Black Grass Bug Black Turfgrass Beetle (Adult) Blue Stem Midge Cereal Leaf Beetle Chinch Bug Crane Fly spp. Cricket spp. English Grain Aphid ¹ Fall Armyworm Flea Beetle spp. Grass Mealybug Grass Sawfly (Adult) Grasshopper spp. Green June Beetle (Adult) Greenbug ^{1,2,4} Japanese Beetle (Adult) Katydid spp. Leafhopper spp. Mite spp. ³ Russian Wheat Aphid ¹ Southern Armyworm Spittlebug spp. Stink Bug spp. Sugarcane Aphid Thrips spp. Tick spp. True Armyworm Webworm spp. Yellowstriped Armyworm	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	⁴ Greenbug is known to have many biotypes. LUNGE Insecticide may provide suppression only. A second application using alternative chemistry may be needed. Pasture and rangeland grass may be used for grazing or cut for forage 0 days after application. Do not cut grass to be dried and harvested for hay until 7 days after the last application. Grass grown for seed: Straw and mature seed (seed screenings) may be used as feed 7 days after the last application. Regrowth of grass grown for seed may be used for grazing, cut for forage or cut to be dried and harvested for hay. Do not apply more than 0.03 lb. a.i. (0.12 pt. or 1.84 fl. oz.)/A per cutting for pastures, rangeland, and grasses grown for seed. A minimum re-treatment interval (RTI) of 30 days is required for pastures and rangeland receiving 0.03 lb. a.i./A which have not been cut between applications. Do not apply more than 0.09 lb. a.i. (0.35 pt. or 5.53 fl. oz. of product) per acre per season. Use scouting to determine application requirements. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water per acre. When applying by ground, apply in a minimum of 7 gals. of water per acre. Use higher application volumes and/or listed application rates when foliage is dense, larvae are large, pest populations are high, or weather conditions are adverse. Use higher listed rates for longer residual. For chinch bug control, LUNGE Insecticide may only suppress heavy infestations and/or migrations. In these situations, a second application using alternative chemistry may be needed.

LEGUME VEGETABLES (BEANS AND PEAS)

EDIBLE PODDED (ONLY): *Canavalia gladiata* – sword bean; *Canavalia ensiformis* – jackbean; *Glycine max* – soybean (immature seed).

EDIBLE PODDED, SUCCULENT SHELLED OR DRIED SHELLED: *Phaseolus* spp. – includes field, kidney, lima, navy, pinto, runner, snap, tepary, and wax beans; *Vigna* spp. – includes adzuki, asparagus, moth, mung, rice, urd and yardlong beans, black-eyed pea, catjang, Chinese longbean, cowpea, Crowder pea, and Southern pea; *Pisum* spp. – includes dwarf, edible-pod, English, field, garden, green, snow, and sugar peas; *Cajanus cajan* – Pigeon pea.

SUCCULENT SHELLED OR DRIED SHELLED: *Vicia faba* – broadbean (fava bean).

DRIED SHELLED (ONLY): *Lupinus* spp. – includes grain, sweet, white and sweet white lupines; *Cicer arietinum* – chickpea (garbanzo bean), *Cyamopsis tetragonoloba* – guar, *Lablab purpureus* – Lablab bean (hyacinth bean), *Lens esculenta* – lentils.

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cutworm spp. Green Cloverworm Imported Cabbageworm Mexican Bean Beetle Saltmarsh Caterpillar Velvetleaf Caterpillar	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	For edible podded and succulent shelled legume vegetables, do not apply within 7 days of harvest. For dried shelled legume vegetables, do not apply within 21 days of harvest. Do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product)/A per season.
Alfalfa Caterpillar Aphid spp. ⁴ Armyworm ² Bean Leaf Beetle Bean Leafskeletonizer Blister Beetle spp. Corn Earworm Corn Rootworm Beetle spp. (Adult) Cucumber Beetle spp. (Adult) Curculio and Weevil spp. ¹ (Foliage and pod feeding adults and larvae) European Corn Borer Fall Armyworm ² Flea Beetle spp. (Adult) Flea Hopper spp. Grasshopper spp. Japanese Beetle (Adult) Leafhopper spp. Leaf-tier spp. Looper spp. Meadow Spittlebug Painted Lady Butterfly (Larva) Plant Bug spp. including Lygus spp. ⁴ Stalk Borer ¹ Stink Bug spp. Threecornered Alfalfa Hopper Thrips spp. ^{4,5} Tobacco Budworm ⁴ Webworm spp. Western Bean Cutworm Western Yellowstriped Armyworm ² Yellowstriped Armyworm ²	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	For succulent and dried shelled peas and beans, do not graze livestock in treated areas or harvest vines for forage or hay. Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A. ¹ For control before the larva bores into the plant stalk or pods. ² Use higher listed rates for large larvae. ³ For suppression only. ⁴ See resistance statement under PRODUCT INFORMATION . ⁵ Does not include Western Flower Thrips.
Beet Armyworm ^{3,4} Leafminer spp. ^{3,4} Lesser Cornstalk Borer ³ Soybean Looper ^{3,4} Spider Mite spp. ³ Whitefly spp. ^{3,4}	1.84 fl. oz. (0.03 lb. a.i.)	

LEGUME VEGETABLES (SOYBEANS)

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Bean Leaf Beetle Cabbage Looper Corn Earworm Corn Rootworm Beetle (Adult beetles including Mexican, Northern, Southern, Western) Cutworm spp. Green Cloverworm Mexican Bean Beetle Painted Lady (Thistle) Caterpillar Potato Leafhopper Saltmarsh Caterpillar Soybean Aphid ⁴ Threecornered Alfalfa Hopper Thrips spp. ⁵ Velvetbean Caterpillar Woollybear Caterpillar	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Do not graze or harvest treated soybean forage, straw or hay for livestock feed. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A. For control of adult corn rootworm beetles (<i>Diabrotica</i> spp.) as part of an aerial applied to corn rootworm control program use at least 1.23 fl. oz./A of product (0.02 lb. a.i./A). ¹ Use higher listed rates for large larvae. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . ⁴ Use lower rates for early season applications and/or lighter populations. ⁵ Does not include Western Flower Thrips. Do not apply within 30 days of harvest.
Armyworm ¹ Blister Beetle spp. European Corn Borer Fall Armyworm ¹ Grasshopper spp. Japanese Beetle (Adult) Plant Bug spp. Silverspotted Skipper Stink Bug spp. Tobacco Budworm ³ Webworm spp. Yellowstriped Armyworm ¹	1.54 - 1.84 fl. oz. (0.025 - 0.03 lb. a.i.)	Do not apply more than 0.06 lb. a.i. (0.23 pt. or 3.69 fl. oz. of product)/A per season.
Beet Armyworm ^{2,3} Lesser Cornstalk Borer ² Soybean Looper ^{2,3} Spider Mite spp. ²	1.84 fl. oz. (0.03 lb. a.i.)	

LETTUCE (HEAD AND LEAF)

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Alfalfa Looper Cabbage Looper Cutworm spp. Green Cloverworm Imported Cabbageworm Saltmarsh Caterpillar	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A. ¹ For control of first and second instars only.
Aphid spp. ^{2,3} Armyworm Beet Armyworm ^{1,3} Corn Earworm Diamondback Moth ³ European Corn Borer Fall Armyworm ¹ Flea Beetle spp. Grasshopper spp. Japanese Beetle (Adult) Leafhopper spp. Meadow Spittlebug Plant Bug spp. including Lygus spp. ³ Southern Armyworm Spider Mite spp. ² Stink Bug spp. Tobacco Budworm ³ Vegetable Weevil (Adult) Whitefly spp. ^{2,3}	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . Do not apply within 1 day of harvest. Do not apply more than 0.3 lb. a.i. (1.15 pts. or 18.43 fl. oz. of product)/A per season.

ONION (BULB) AND GARLIC

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cutworm spp. Leafminer spp. (Adult) Onion Maggot (Adult) Seedcorn Maggot (Adult)	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	See additional instructions below. Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds.
Aphid spp. ² Armyworm spp. ¹ Flower Thrips ^{2,3} Onion Thrips ³ Plant Bug spp. Stink Bug spp. Tobacco Thrips ³ Western Flower Thrips ^{2,3}	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	<p>Use the higher listed label rates as thrips population increases and avoid rescue situations.</p> <p>Apply by ground or air using enough water and application methods to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A.</p> <p>To control thrips by aerial application, the addition of 1% COC v/v, 1/4% NIS v/v or a silicone adjuvant (follow manufacturer's use directions) may improve the deposition of the spray and increase plant coverage.</p> <p>¹ For control of first and second instars only.</p> <p>² Suppression only.</p> <p>³ See resistance statement under PRODUCT INFORMATION.</p> <p>Do not apply within 14 days of harvest.</p> <p>Do not apply more than 0.24 lb. a.i. (0.92 pts. or 14.74 fl. oz. of product)/A per season.</p>

PEANUTS

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cutworm spp. Green Cloverworm Potato Leafhopper Rednecked Peanut Worm Threecornered Alfalfa Leafhopper Velvetbean Caterpillar	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	<p>Use scouting to determine need for application, usually at intervals of 7 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds.</p> <p>Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water/A.</p> <p>¹ Use higher listed rates for large larvae.</p>
Bean Leaf Beetle Corn Earworm Fall Armyworm ¹ Grasshopper spp. Southern Corn Rootworm (Adult) Stink Bug spp. Tobacco Thrips Vegetable Weevil Whitefringed Beetle (Adult)	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	<p>² Suppression only.</p> <p>³ See resistance statement under PRODUCT INFORMATION.</p> <p>Do not apply within 14 days of harvest.</p> <p>Do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product)/A per season.</p>
Aphid spp. ² Beet Armyworm ^{2,3} Lesser Cornstalk Borer ² Soybean Looper ^{2,3} Spider Mite spp. ²	1.84 fl. oz. (0.03 lb. a.i.)	

POME FRUITS - APPLE, CRABAPPLE, LOQUAT, MAYHAW, ORIENTAL PEAR, PEAR, QUINCE

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Apple Aphid Apple Maggot (Adult) Cherry Fruit Fly spp. (Adult) Codling Moth Green Fruitworm Japanese Beetle Leafhopper spp. Leafroller spp. Lesser Appleworm Omnivorous Leafroller Orange Tortrix Oriental Fruit Moth Pear Psylla ¹ Pear Sawfly Periodical Cicada Plant Bug spp. Plum Curculio Rosy Apple Aphid San Jose Scale (Fruit infestations only) Spirea Aphid ¹ Stink Bug spp. Tent Caterpillar spp. Tentiform Leaf Miner spp. Tree Borer spp. Tufted Apple Budworm Webworm spp.	1.23 - 2.46 fl. oz. (0.02 - 0.04 lb. a.i.)	See additional instructions below. Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds and IPM recommendations. Apply by ground or air using enough water to obtain full coverage of the foliage or target area. When applying by air, apply in at least 5 gals. of water per acre, but use higher volumes as appropriate for thorough coverage. ¹ Suppression only. Do not apply within 21 days of harvest. Do not apply more than 0.2 lb. a.i. (0.77 pts. or 12.29 fl. oz. of product)/A per year. Do not apply more than 0.16 lb. a.i. (0.61 pts. or 9.83 fl. oz. of product)/A per year post bloom.

STONE FRUITS – APRICOT, SWEET CHERRY, TART CHERRY, NECTARINE, PEACH, PLUM, CHICKASAW PLUM, DAMSON PLUM, JAPANESE PLUM, PLUMCOT, PRUNE

Pests	Rate Lunge Insecticide Per Acre	Use Directions
American Plum Borer Apple Maggot (Adult) Black Cherry Aphid Cherry Fruit Fly spp. (Adult) Codling Moth Green Fruitworm Japanese Beetle June Beetle Leafhopper spp. Leafroller spp. Oriental Fruit Moth Peach Twig Borer Peachtree Borer spp. Pear Sawfly Periodical Cicada Plant Bug spp. Plum Curculio Rose Chafer Stink Bug spp. Tent Caterpillar spp. Thrips spp.	1.23 - 2.46 fl. oz. (0.02 - 0.04 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds and IPM recommendations. Apply by ground or air using enough water to obtain full coverage of the foliage or target area. When applying by air, apply at least 5 gals. of water per acre, but use higher volumes as appropriate for thorough coverage. Do not apply within 14 days of harvest. Do not apply more than 0.2 lb. a.i. (0.77 pts. or 12.29 fl. oz. of product)/A per year. Do not apply more than 0.16 lb. a.i. (0.61 pts. or 9.83 fl. oz. of product)/A per year post bloom.

SUGARCANE

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Mexican Rice Borer ¹ Pygmy Mole Cricket Rice Stalk Borer ¹ Sugarcane Aphid ³ Sugarcane Beetle (Adult) ² Sugarcane Borer ¹ West Indian Cranefly Yellow Sugarcane Aphid ³	1.54 - 2.46 fl. oz. (0.025 - 0.04 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 7 or more days. Base the timing and frequency of applications on when insect populations reach local economic threshold. Apply by ground or air using enough water to obtain full coverage of the foliage or target area. When applying by air, apply at least 2 gals. of water/A. ¹ For control before the larva bores into the plant stalk. ² Suppression only of beetles active above ground. ³ See resistance statement under PRODUCT INFORMATION . Do not apply within 21 days of harvest. Do not apply more than 0.16 lb. a.i. (0.61 pts. or 9.83 fl. oz. of product)/A per season.

SUNFLOWER

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cutworm spp. Sunflower Beetle	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds.
Banded Sunflower Moth Fall Armyworm ¹ Grasshopper spp. Head-Clipper Weevil (Adult) Japanese Beetle (Adult) Leafhopper spp. Meadow Spittlebug Painted Lady (Thistle) Caterpillar Seed Weevil (Adult) Spotted Cabbage Looper Stem Weevil (Adult) Stink Bug spp. Sunflower Maggot (Adult) Sunflower Moth Woollybear Caterpillar	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	Apply by ground or air using enough water to obtain full coverage of sunflower heads and/or foliage. When applying by air, apply in at least 2 gals. of water/A. ¹ Use higher listed rates for large larvae. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . Do not apply within 45 days of harvest. Do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product)/A per season. Do not apply more than 0.09 lb. a.i. (0.35 pt. or 5.53 fl. oz. of product)/A per season after bloom initiation. Do not apply as an Ultra-Low Volume (ULV) spray.
Beet Armyworm ^{2,3} Spider Mite spp. ²	1.84 fl. oz. (0.03 lb. a.i.)	

TOBACCO

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Armyworm spp. ¹ Blister Beetle spp. Cabbage Looper Corn Earworm Cucumber Beetle spp. (Adult) Cutworm spp. Grasshopper spp. Japanese Beetle (Adult) Katydid spp. Plant Bug spp. ³ Potato Tuberworm Saltmarsh Caterpillar Stinkbug spp. Tobacco Aphid spp. ^{2,3} Tobacco Budworm ³ Tobacco Flea Beetle (Adult) Tobacco Hornworm Tobacco Thrips spp. ² Tomato Hornworm Tree Cricket spp. Vegetable Weevil (Adult) Webworm spp.	0.92 - 1.84 fl. oz. (0.015 - 0.03 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 7 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of the foliage. When applying by air, apply in at least 2 gals. of water/A. ¹ For control of first and second instars only. ² Suppression only. ³ See resistance statement under PRODUCT INFORMATION . Do not apply within 40 days of harvest. Do not apply more than 0.09 lb. a.i. (0.35 pt. or 5.53 fl. oz. of product)/A per year.

TREE NUTS – ALMOND, BEECH NUT, BRAZIL NUT, BUTTERNUT, CASHEW, CHESTNUT, CHINQUAPIN, FILBERT (HAZELNUT), HICKORY NUT, MACADAMIA NUT (BUSH NUT), PISTACHIO, WALNUT-BLACK, WALNUT-ENGLISH (PERSIAN), PECAN

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Ants Chinch Bug Codling Moth Filbertworm Hickory Shuckworm Leaffooted Bug Leafroller spp. Navel Orangeworm Peach Twig Borer Pecan Aphid spp. Pecan Casebearer spp. Pecan Phylloxera spp. Pecan Spittlebug Pecan Weevil Plant Bug spp. Stink Bug spp. Walnut Aphid Walnut Husk Fly spp. (Adult)	1.23 - 2.46 fl. oz. (0.02 - 0.04 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 5 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of the foliage or target area. When applying by air, apply in at least 5 gals. of water per acre, but use higher listed rates as appropriate for thorough coverage. Do not apply within 14 days of harvest. Do not apply more than 0.16 lb. a.i. (0.61 pts. or 9.83 fl. oz. of product)/A per year. Do not apply more than 0.12 lb. a.i. (0.48 pt. or 7.37 fl. oz. of product)/A per year post bloom.

TUBEROUS AND CORM VEGETABLES - ARRACACHA, ARROWROOT, ARTICHOKE (Chinese and Jerusalem only), CANNA (edible), CASSAVA (bitter and sweet), CHAYOTE (root), CHUFA, DASHEEN, GINGER, LEREN, POTATO, SWEET POTATO, TANIER, TURMERIC, YAM (bean and true)

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Cutworm spp. Leafhopper spp. Saltmarsh Caterpillar Sweet Potato Hornworm Woollybear Caterpillar spp.	0.92 - 1.54 fl. oz. (0.015 - 0.025 lb. a.i.)	Use scouting to determine need for application, usually at intervals of 7 or more days. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of foliage. When applying by air, apply in at least 2 gals. of water per acre.
Aphid spp. ¹ Armyworm spp. ¹ Blister Beetle spp. Colorado Potato Beetle ¹ Corn Earworm Cricket spp. Cucumber Beetle spp. (Adult) European Corn Borer Flea Beetle spp. (Adult) Grasshopper spp. Looper spp. ¹ Lygus Bug spp. ¹ Plant Bug spp. Potato Psyllid Potato Tuberworm Stink Bug spp. Sweet Potato Leaf Beetle (Adult) Sweet Potato Vine Borer Thrips spp. ^{1,2} Tortoise Beetle spp. Webworm spp. Weevil spp. (Adult)	1.23 - 1.84 fl. oz. (0.02 - 0.03 lb. a.i.)	When applying by ground, apply in a minimum of 10 gals. of water per acre. Use higher application volumes and/or application rates when foliage is dense, larvae are large, pest populations are high, plant size increases, or weather conditions are adverse. Use higher listed rates for longer residual. Insects that tunnel or bore into leaves, vines, stems, tubers, or corms must be controlled before penetration. Only exposed insects (larvae and/or adults) can be controlled with foliar applications of LUNGE Insecticide. ¹ See resistance statement under PRODUCT INFORMATION . ² Does not include Western Flower Thrips. ³ Suppression only. Do not apply within 7 days of harvest. Do not apply more than 0.12 lb. a.i. (0.46 pt. or 7.37 fl. oz. of product) per acre per season.
Leafminer spp. ^{1,3} Whitefly spp. ^{1,3} Spider Mite spp. ³	1.84 fl. oz. (0.03 lb. a.i.)	

CONIFER AND DECIDUOUS TREES – PLANTATIONS AND NURSERIES

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Bagworm Balsam Twig Aphid Balsam Wooly Aphid Birch Leafminer Black Pine Weevil Elm Leaf Beetle European Elm Leaf Beetle Gypsy Moth Japanese Beetle June Beetle spp. Leaf Beetle spp. Leafroller spp. May Beetle spp. Mealybug spp. ¹ Pales Weevil Pine Chafer Pine Colaspis Beetle Pine Conelet Bug Pine Leaf Chermid Pine Needle Scale Pine Sawfly spp. Pine Tip Moth spp. Pine Tortoise Scale Pine Weevil spp. Poplar Aphid spp. Sawfly spp. Spittlebug spp. Spruce Budworm Tent Caterpillar spp. Tussock Moth spp. Webworm spp.	1.23 - 2.46 fl. oz. (0.02 - 0.04 lb. a.i.)	Use scouting to determine timing for control of exposed foliage, flower, cone, seed and bark feeding insects. Base the timing and frequency of applications on when insect populations reach local economic thresholds. Apply by ground or air using enough water to obtain full coverage of target site. When applying by air, apply in at least 2 gals. of water/A. ¹ Suppression only. Do not apply more than 0.24 lb. a.i. (0.92 pts. or 14.74 fl. oz. of product)/A per year.

CONIFER AND DECIDUOUS TREES – SEED ORCHARDS

Pests	Rate Lunge Insecticide Per Acre	Use Directions
Coneworm spp. Seed Bug spp. Thrips spp.	See Use Directions	For high volume sprayers, dilute 2.46 fl. oz. of product per 100 gals. of water and apply 5 - 10 gals. of finished spray per tree. For low volume sprayers, dilute 10 fl. oz. of product per 100 gals. of water and apply 100 gals. of finished spray per acre. For aerial applications, apply 7.5 fl. oz. of product per acre in a minimum of 10 gals. of finished spray per acre. Do not apply more than 0.5 lb. a.i. (2 pts. or 30.72 fl. oz. of product)/A per year.

NON-CROPLAND ADJACENT TO AGRICULTURAL AREAS (EXCLUDING PUBLIC LAND)

Pests	Use Directions
See crop instructions in sections above for specific pest and rate information	Spray non-cropland adjacent to agricultural areas to control insects which may migrate to and threaten crops. Follow the DIRECTIONS FOR USE instructions, application rates, and spray recommendations found elsewhere on this label for the adjacent crop outlet and target pests. When foliage is dense/large, insect populations are high or larval stages are large, use the highest labeled rate for that crop-pest combination. Repeat as necessary to maintain control. Do not apply more than 0.2 lb. a.i. (0.77 pts. or 12.29 fl. oz. of product)/A per year. Do not graze livestock in treated areas.

Rate Conversion Chart

Treated Acres/Gal.	66	50	40	33	25
pts./A	0.04	0.08	0.10	0.12	0.15
fl. oz./A	0.61	1.23	1.54	1.84	2.46
lb. a.i./A	0.01	0.02	0.025	0.03	0.04

FOR USE ON PLANTS INTENDED FOR AESTHETIC PURPOSES OR CLIMATIC MODIFICATION AND BEING GROWN IN INTERIOR PLANTSCAPES, ORNAMENTAL GARDENS OR PARKS, OR ON LAWNS OR GROUNDS.

- Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment. During application, do not allow pesticide to enter or runoff into storm drains, drainage ditches, gutters or surface waters.
- All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:
 - 1) Treatment to soil or vegetation around structures;
 - 2) Applications to lawns, turf, and other vegetation;
 - 3) Applications to building foundations, up to a maximum height of 3 feet above grade;
 - 4) Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure;
 - 5) Applications around potential pest entry points into buildings, when limited to a surface band not to exceed one inch in width;
 - 6) Applications made through the use of a coarse, low-pressure spray to only those portions of surfaces that are directly above bare soil, lawn, turf, mulch or other vegetation, as listed on this label, and not over an impervious surface, drainage or other condition that could result in runoff into storm drains, drainage ditches, gutters, or surface waters, in order to control occasional invaders or aggregating pests.
- Do not water the treated area to the point of run-off.
- Do not make applications during rain.
- Do not apply directly to sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur, except as directed by this label.

STRUCTURAL AND PERIMETER PEST CONTROL

For use as a surface, crack-and-crevice, or spot treatment in, on, and around buildings and structures and their immediate surroundings, and on modes of transport. Permitted areas of use: aircraft (cargo and other non-cabin areas only), apartment buildings, boiler rooms, buses, closets, correctional facilities, decks, entries, factories, fencing, floor drains (that lead to sewers), food granaries, food grain mills, food manufacturing, processing and serving establishments; furniture, garages, garbage rooms, greenhouses (non-commercial), hospitals, hotels and motels, houses, industrial buildings, laboratories, livestock/poultry housing, landscape vegetation, locker rooms, machine rooms, mausoleums, mobile homes, mop closets, mulch, nursing homes, offices, patios, pet kennels, porches, railcars, restaurants, storage rooms, schools, sewers (dry), stores, trailers, trees, trucks, utility passages, vessels, vestibules, warehouses, wineries and yards.

For indoor applications, retreat at 21-day intervals or as necessary to maintain control.

Mixing Instructions

LUNGE Insecticide is intended for dilution with water for application using hand-held or power-operated application equipment as a coarse spray for crack-and-crevice or spot and surface treatments. Application equipment that delivers low volume treatments, such as the Micro-Injector® or Actisol® applicator, may also be used to make crack-and-crevice or spot and surface treatments. Fill applicator tank with the desired volume of water and add LUNGE Insecticide. Close and shake before use in order to ensure proper mixing. Shake or re-agitate applicator tank before use if application is interrupted. Mix only amount required. A surface treatment of LUNGE Insecticide may be applied by using a paintbrush or other porous applicator attached to a handle.

Tank Mixing

LUNGE Insecticide may be tank-mixed with other currently registered pesticides unless expressly prohibited by the product label. To ensure compatibility, conduct a small volume mixing test with the other products. If mixed with sanitizers, add LUNGE Insecticide to the tank first. If other chemicals are added to the applicator tank, add LUNGE Insecticide last. If mixed with EC formulations, use within 24 hours. Fill tank to desired volume and continue to agitate while making applications.

Observe all restrictions and precautions which appear on the labels of these products.

Foam Applications

LUNGE Insecticide can be converted to foam to control insect and arthropod pests in void areas. Foam may be used to control or prevent localized infestations of termites, ants, bees, wasps or other arthropods harboring in voids. Application may be made to voids such as behind veneers, piers (concrete or wood), chimneys, into rubble and stone foundations, into block voids, structural voids (i.e., between stud walls), poles, stumps, and wood in crawlspaces using either the foam alone or in combination with liquid emulsion. Note location of electrical sources prior to foaming voids to avoid possible shock hazards.

Apply as a high expansion or dry foam (approximately 20:1 expansion ratio). Fill void with foam so that all surfaces are contacted. Mix end-use dilution of this product with manufacturer's recommended volume of foaming agent. Use the recommended rate suspension converted to foam to achieve the desired foam expansion ratios. Verify before treatment that the foaming agent is compatible with this product.

To determine the amount of LUNGE Insecticide required to make a given end dilution in a 20:1 dry foam, multiply 1) the amount of insecticide (fl. oz.) required per gallon of water to obtain the desired end dilution (% dilution) by 2) the amount of foam in gallons formed from the foaming agent solution.

EXAMPLE:

- 0.03% end dilution requires 0.17 fl. oz. LUNGE Insecticide per gallon of water
- 20 gallons of dry foam is generated from 1 gallon of foam agent solution (water plus foaming agent; 20:1 expansion ratio)
- 0.17 fl. oz. LUNGE Insecticide per gallon for a 0.03% dilution X 20 gallons of dry foam generated = 3.4 fl. oz. insecticide required for 0.03% dilution (0.17 fl. oz. X 20 gallons)

Structural Pest Application

Pests	Concentration of Active Ingredient	Dilution Rate
Ants Bedbugs (adult) Beetles Boxelder Bees Carpenter bees Carpet beetles Centipedes Cigarette beetles Clover mites Cockroaches ¹ Confused Flour Beetles Crickets Earwigs Firebrats Fleas ² Flies Lesser Grain Borers Millipedes Mosquitoes Red Flour Beetles Rice Weevils Saw-tooth Grain Beetles Silverfish Sowbugs Spiders Stinging nuisance pests (bees, wasps) Termites (above ground only) Ticks	0.015 - 0.03%	For 0.015% use: 0.085 fl. oz. (2.5 mL)/gallon of water For 0.03% use: 0.17 fl. oz. (5 mL)/gallon of water
Cockroaches ¹ Crickets ⁶ Flies ^{5*} Litter beetles ³ (darkling, hide, carrion) Mosquitoes ⁴ Pillbugs Scorpions Spiders ⁶ Spider Mites (Twospotted, Spruce) Ticks ⁶	0.06%	For 0.06% use: 0.34 fl. oz. (10 mL)/gallon of water

* Not approved for use in California at the higher specified rate.

¹ For cockroaches, the recommended rate for maintenance treatments is 0.015% and for clean-out treatments is 0.03%. For control of SEVERE infestations, use 0.06%.

² For outdoor use only and use 0.03% rate.

³ For control of LIGHT beetle infestations, use 0.03% rate.

⁴ For residual control, use 0.06% rate.

⁵ Rates for flies may be increased to 0.06% when environmental conditions are severe and/or populations are high.

⁶ For clean-out/severe infestations, use 0.06% rate.

PEST CONTROL USE DIRECTIONS

Ants: Apply to any trails around doors and windows and other places where ants may be found. For best results, locate and treat nests. Where ants are trailing inside, apply as a residual surface treatment to active areas such as baseboards, corners, around pipes, in and behind cabinets, behind and under refrigerators, sinks, furnaces and stoves, cracks and crevices. When combining baits and residual surface insecticides, apply surface insecticides in cracks and crevices, and along baseboards, infested surfaces and outside barrier treatments. Treatment of perimeter landscaping can reduce honeydew-producing insects and limit this ant food source. Use baits in other areas that are untreated by residual insecticides; also see **Outdoor Surfaces Use**.

Cockroaches, Crickets, Earwigs, Firebrats, Silverfish, and Spiders: Apply as a coarse, low pressure spray to areas where these pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, cabinets, behind and under refrigerators, furniture, sinks, furnaces and stoves, the underside of shelves, drawers and similar areas. Pay particular attention to cracks and crevices; also see **Outdoor Surfaces Use**.

Bedbugs: Clean floors and surfaces by vacuuming before applications. Apply as a coarse, low pressure spray to harborage areas including crevices, baseboards, loose plaster, behind bed frames, and headboards, beneath beds and furniture, and to bedsprings and bed frames. Do not apply furniture surfaces or mattresses where people will be laying or sitting. Do not treat infested bedding, but remove and place in sealed plastic bags, and take for laundering and drying at high temperatures.

Flies, Mosquitoes, and Stinging nuisance pests (bees, wasps): Apply directly to walls, ceilings, window screens and other resting areas as a residual surface treatment. LUNGE Insecticide may be used inside residential building as well as in and around carports, garages, and storage sheds; also see **Outdoor Surfaces Use**. Use caution when treating nests of stinging insects as LUNGE Insecticide does not provide instant knockdown. Protective equipment for the applicator may be required. For best results, treat bee, wasp and hornet nests late in the day when most insects will be present. Allow 2 - 3 days for colony to die and retreat if necessary.

For mosquito control, apply as a structural perimeter spray to landscape plantings, turf, and building foundations to control mosquitoes. Yards or other frequented areas enclosed by landscaping can benefit from the creation of a mosquito barrier to reduce invading mosquitoes by the treatment of perimeter vegetation. Apply LUNGE Insecticide at specified rates in 2 - 5 gallons of water per 1,000 sq. ft. Higher volumes applied result in better coverage and as a rule, will improve control. Application to vegetation away from structures may require additional certification, e.g. in turf or ornamental categories. Consult your state regulatory agency for requirements.

Carpenter Bees: Apply coarse spray to thoroughly wet wood surfaces where bees have been previously active or to provide protection against further damage. Apply early in the spring to prevent bees from invading wood. When bees have infested wood, surface applications can help control embedded larvae and bees that emerge from the wood. Applications can be made on a monthly basis to maintain protection of treated areas.

Pantry Pests (ie., Carpet beetle, Cigarette beetle, Confused flour beetle, Lesser grain borer, Red flour beetle, Rice weevil, and Saw-toothed grain beetle): Apply to cupboards, shelving, and storage areas. Remove all utensils, uncovered foodstuffs (or any having original package opened), and shelf paper before making application. Allow treated surfaces to dry and cover shelves with clean paper before replacing any utensils, foodstuff, or other items. Any foodstuff accidentally contaminated with treatment solution should be destroyed.

Boxelder bugs, Centipedes, Millipedes, Pillbugs, and Sowbugs: Apply around doors and windows and other places where these pests may be found or where they may enter premises. Treat baseboards, storage areas, and other locations. Apply barrier treatments to prevent infestation as described below: also see **Outdoor Surfaces Use**.

Fleas and Ticks: To control fleas and ticks (dog ticks) apply to kennels, yards, runs and other areas where pets may frequent. For best coverage to control ticks, apply using a coarse fan spray to vegetation brush, branches, rock walls, and other areas near habitation where ticks may harbor or frequent. Treat entire areas rather than making spot treatments, and retreat as necessary to maintain control. Do not apply to pasture or cropland, and do not allow animals and people access to treated areas until the deposit has dried. Applications can be made on a monthly basis, beginning in the spring and can continue until frost to control both larvae and adult ticks. Also treat pets with a product registered for flea and tick control. See **Outdoor Surfaces Use**.

Cluster Flies: Apply in late summer or early fall before flies are observed alighting on surfaces. Apply thoroughly on siding, under eaves and around window and doors, paying particular attention to south-facing surfaces. Apply just enough dilution to adequately cover the area without excessive dripping or runoff. Volume can vary depending on the surface type treated. Heavy precipitation prior to frost may require retreatments to maintain protection. In winter and spring when flies become active and are emerging, interior crack-and-crevice and void treatments can help reduce the infestation, along with ULV or surface application in infested attics or unoccupied lofts.

Litter Beetles (Darkling, Hide and Carrion Beetles) and Flies in Animal Housing (such as poultry houses): To control adult litter beetles, apply LUNGE Insecticide to walls and floors at cleanout, before reintroduction of animals. This will suppress beetles that escaped earlier treatment and will help delay onset of future infestations. Pay attention to areas where beetles frequently occur, such as walls, supports, cages, stalls, and around overhead areas and allow it to dry before reintroduction of animals; also see **Livestock/Poultry Housing Structures and Pet Kennels**.

Application Within Food-Handling Establishments: (Places other than private residences in which exposed food is held, processed, prepared, or served) including but not limited to areas for receiving, storage, packing (canning, bottling wrapping boxing), preparing foods, edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups), and serving areas.

Use as a crack-and-crevice or spot treatment in and around both food and nonfood areas. Apply in small amounts directly into cracks and crevices, using equipment capable of delivering a pin stream of insecticide, in points between different elements of construction, between equipment and floor, opening leading to voids and hollow spaces in walls, equipment and bases. Clean food contact surfaces and equipment with an effective cleaning compound and rinse with potable water before using.

Limit individual spot treatments to an area no larger than 20% of the treated surface. Individual spot treatments should not exceed 2 sq. ft. Take extreme care that the product is not introduced into the air. Avoid contamination of food and food processing surfaces.

Application within Food-Serving Areas (facilities where foods are served, such as dining rooms): Apply as a crack-and-crevice or spot treatment to selective surfaces such as baseboards, under elements of construction, and into cracks and crevices. Do not treat surfaces likely to be contacted by food. Do not apply when facility is in operation or foods are exposed. Food must be covered or removed in area being treated. Do not apply directly to food or allow applications to contaminate food.

Application of this product in the Food Areas and/or Food-Serving Areas of Food Handling Establishments other than as a spot and/or crack-and-crevice treatment is not permitted. Limit the use of application equipment such as the Micro-Injector or Actisol applicator in food areas to crack-and-crevice treatment only.

Livestock/Poultry Housing Structures and Pet Kennels

Apply as a surface (including directed sprays) and/or crack-and-crevice treatment. Control is enhanced when interior and exterior perimeter applications are made in and around the livestock, poultry, and pet housing structures. Normal cleaning practices of the structure also must be followed along with applications of LUNGE Insecticide to effectively control the crawling and flying insect pests listed in the table.

For unoccupied areas of livestock barns or housing structures, apply to floors, vertical, and overhead surfaces where crawling or flying insect pests are or may be present.

Cover feeders, waterers, and feed carts before application to prevent contamination. Do not apply to milk rooms or feed rooms. Pay attention to animal areas including stanchions, pipes, windows and doors, and areas where insect pests hide or congregate. Exterior applications to south facing walls and foundation perimeters can help prevent interior infestations of flying and crawling insect pests.

For poultry houses, apply to floor area (birds grown on litter) or to walls, posts, and cage framing (birds grown in cages). Also make applications into cracks and crevices around insulation. Reapply after each grow-out or sanitization procedure. Indoor control can be enhanced by making perimeter treatments around the outside of building foundations to prevent immigrating adult beetles. Apply in a uniform band 1 - 3 ft. up and 2 - 6 ft. out from foundation. Maintaining a year-round treatment program will prevent background populations from reaching problem levels.

Do not make interior applications of LUNGE Insecticide in areas of facility where animals other than cattle or calves are present. Allow treated surfaces to completely dry before restocking the facility.

DO NOT make applications to any animal feedstuffs, water, or watering equipment.

DO NOT contaminate any animal food, feed, or water in and around livestock, poultry, or pet housing when making applications.

Termites: To inhibit termite infestations, treat exposed tubing, cracks or cold joints in concrete or other structural interstices. Treat exposed surfaces to cover thoroughly but avoid excess run-off. This type of application is intended to be a supplemental treatment for control of drywood and above ground subterranean termites. It is not intended to be a substitute for soil treatment or for extensive infestation of drywood or other wood-infesting insects. To treat for severe infestations or for treatments under slabs, in basements and buildings with insufficient crawlspace, use a registered termiticide.

Outdoor Surfaces Use

For control of ants, bees, centipedes, cockroaches, crickets, fleas, flies, millipedes, mosquitoes, scorpions, sowbugs, pillbugs, spiders, termites (above-ground only), ticks, wasps, and other similar perimeter arthropod pests. Apply with either hand or power application equipment as a residual treatment to ornamental plants next to foundations of buildings and to surfaces of buildings, porches, screens, window frames, eaves, patios, garages, refuse dumps, and other similar areas where these insect pests are active. For termites, this type of application is not intended as a substitute for soil treatment-labeled termiticides, mechanical alteration to control subterranean termites, or fumigation for extensive infestation of drywood termites or other wood-infesting insects.

The purpose of such applications of LUNGE Insecticide for termites is to kill workers or winged reproductive forms which may be present in treated channels at the time of treatment. Such applications are not a substitute for mechanical alteration, soil treatment or foundation treatment, but are merely a supplement. This product is not recommended as sole protection against termites. For active termite infestations, get a professional inspection.

Structural Perimeter Barrier Treatments

Applying a continuous band of insecticide around a building foundation and around windows, doors, service line entrances, eaves, vents, and other areas can greatly reduce the potential for entry by crawling pests. To facilitate application, remove debris and leaf litter from next to the foundation, cut back vegetation and branches that touch the foundation, and move or rake back rocks, deep mulch, or other potential pest harborage next to the foundation. Apply the band up to 10-ft. wide around the structure (or according to state regulations governing commercial pest control) and upwards along the foundation to 3 ft. and around windows, doors, and roof overhangs. Apply as a coarse spray to thoroughly and uniformly wet the foundation and/or band area so that the insecticide will reach the soil or thatch level where pests may be active.

Amount of concentrate is dependent upon pest species (see pest table and comments), infestation levels, and service interval desired.

Rate Table for Structural Perimeter Barrier Applications

Application Rate LUNGE Insecticide	Gallons of Water ¹	Area of Coverage (sq. ft.)
0.085 fl. oz. (2.5 mL)	1 - 5	800 - 1,600
0.17 fl. oz. (5 mL)	1 - 5	800 - 1,600
0.34 fl. oz. (10 mL)	1 - 5	800 - 1,600

¹ Application volume may be greater than 5 gal./800 - 1,600 sq. ft. if required under heavy vegetative or landscaping materials in order to obtain desired coverage.

Examples of Dilutions for Structural Perimeter Barrier Applications

Application Volume: Gallons of Solution/1,000 sq. ft.	Application Rate of LUNGE Insecticide/1,000 sq. ft.	Amount of LUNGE Insecticide to Dilute in Water According to Spray Tank Volumes		
		5 gallons	10 gallons	50 gallons
1	0.085 fl. oz. (2.5 mL) 0.17 fl. oz. (5 mL) 0.34 fl. oz. (10 mL)	0.43 fl. oz. (12.5 mL) 0.85 fl. oz. (25 mL) 1.7 fl. oz. (50 mL)	0.85 fl. oz. (25 mL) 1.7 fl. oz. (50 mL) 3.4 fl. oz. (100 mL)	4.3 fl. oz. (125 mL) 8.5 fl. oz. (250 mL) 17 fl. oz. (500 mL)
2	0.085 fl. oz. (2.5 mL) 0.17 fl. oz. (5 mL) 0.34 fl. oz. (10 mL)	0.22 fl. oz. (6.3 mL) 0.43 fl. oz. (12.5 mL) 0.85 fl. oz. (25 mL)	0.43 fl. oz. (12.5 mL) 0.86 fl. oz. (25 mL) 1.7 fl. oz. (50 mL)	2.2 fl. oz. (62.5 mL) 4.3 fl. oz. (125 mL) 8.5 fl. oz. (250 mL)
5	0.085 fl. oz. (2.5 mL) 0.17 fl. oz. (5 mL) 0.34 fl. oz. (10 mL)	0.085 fl. oz. (2.5 mL) 0.17 fl. oz. (5 mL) 0.34 fl. oz. (10 mL)	0.17 fl. oz. (5 mL) 0.34 fl. oz. (10 mL) 0.68 fl. oz. (20 mL)	0.85 fl. oz. (25 mL) 1.7 fl. oz. (50 mL) 3.4 fl. oz. (100 mL)

Example calculation: to apply the mid-rate of LUNGE Insecticide at a volume of 5 gals./1,000 sq. ft., mix 1.7 fl. oz. (50 mL) of concentrate in 50 gallons of water. The percent active ingredient in the finished LUNGE Insecticide dilution can be calculated with the following formula:

mL needed to add times 23.15% active in concentrate, divided by gallons finished dilution times 3,785.412 mL/gal. = % active in dilution.

EXAMPLE:

- 1.7 fl. oz. LUNGE Insecticide added into 50 gallons of water = 50 mL LUNGE Insecticide (found in dilution table above)
- 50 mL LUNGE Insecticide multiplied by 23.15 (% active in concentrate) = 1,389
- 50 gallons of water multiplied by 3,785.412 mL/gallon = 189,270.6 mL of water in the tank
- 1,389 divided by 189,270.6 mL of water in the tank = 0.006% active in the tank dilution.

NOTE: Do not use water-based sprays of LUNGE Insecticide in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard. Thoroughly wash out sprayer and screen with water and detergent before using LUNGE Insecticide. LUNGE Insecticide has not stained or caused damage to painted or varnished surfaces, plastics, fabrics, or other surfaces where water applied alone causes no damage. However, treat a small area and allow it to dry to determine whether staining will occur.

LET TREATED SURFACES DRY BEFORE ALLOWING HUMANS AND PETS TO CONTACT SURFACES.

RESTRICTIONS

Do not use this product with oil.

Do not apply this product in any room being used as living, eating, sleeping, or recovery area by patients, the elderly, or infirm when they are in the room.

Do not apply to classrooms when in use.

Do not apply to institutions (including libraries, sports facilities, etc.) in the immediate area when occupants are present.

Do not apply this product to edible growing crops or stored raw agricultural commodities used for food or feed.

Do not allow applications to contact water inhabited by fish, such as in aquariums and ornamental fish ponds that are located in/around structures being treated.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry, secure location.

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 containers equal to or less than 5 gallons.

Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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. If pressure rinsing, empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration. Do not burn, unless allowed by state and local ordinances.

Nonrefillable containers greater than 5 gallons.

Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container 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 this procedure two more times. Then offer container for recycling, reconditioning, or puncture and dispose of in a sanitary landfill, by incineration. Do not burn, unless allowed by state and local ordinances.

IMPORTANT INFORMATION READ BEFORE USING PRODUCT

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NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

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