

Cormoran®

ACETAMIPRID	GROUP	4A	INSECTICIDE
NOVALURON	GROUP	15	INSECTICIDE

Insecticide

For agricultural use only on berries, brassica head and stem, brassica leafy greens, cotton, fruiting vegetables, pome fruits, potatoes, stone fruits, strawberries, sweet corn, and tree nuts.

ACTIVE INGREDIENTS:	% BY WT.
Novaluron	9.1%
Acetamiprid	7.3%
OTHER INGREDIENTS:	83.6%
TOTAL:	100.0%

Cormoran is a dispersible concentrate insecticide contains 0.84 pounds of novaluron per gallon and 0.67 pounds of acetamiprid per gallon.

EPA Reg. No. 66222-264

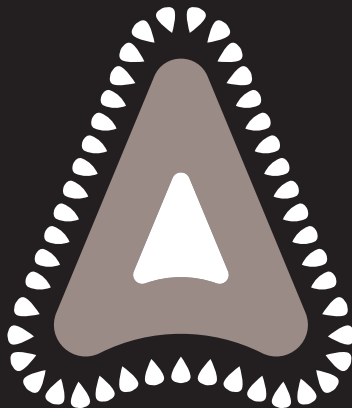
EPA Est. No. 37429-GA-1^{PT};
37429-GA-2^{PO}; 37429-GA-3^{BV}

Letter(s) in lot number correspond(s)
to superscript in EPA Est. No.

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUTION

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.)

How can we help?
1-866-406-6262



INSECTICIDE

ADAMA

FIRST AID

IF ON SKIN:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.
- Call a poison control center or doctor for treatment advice.

IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- **DO NOT** induce vomiting unless told to do so by a poison control center or doctor.
- **DO NOT** give anything by mouth to an unconscious person.

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice

Note to Physician: Contact with the eyes may cause irritation. **Symptoms of Poisoning:** The compound does not cause any definite symptoms that would be diagnostic.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

For non-emergency general information on this pesticide product (including health concerns or pesticide incidents), you may call PROPHARMA at 1-877-250-9291, 24 hours per day, 7 days per week.

In case of spills, fire, leaks or accident, call INFOTRAC at 1-800-535-5053.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION/PRECAUTION

Harmful if absorbed through skin or if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash hands 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. Keep out of reach of children and domestic animals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, made of barrier laminate, or butyl rubber \geq 14 mils or neoprene rubber \geq 14 mils or polyvinyl chloride \geq 14 mils or Viton \geq 14 mils.
- Shoes plus socks

ENGINEERING CONTROLS STATEMENTS

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 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. Wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds and aquatic invertebrates. This product is toxic to bees exposed to direct treatment. **DO NOT** apply this product while bees are actively visiting the treatment area. **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

DO NOT contaminate water when disposing of equipment washwater or rinsate. **DO NOT** contaminate water used for irrigation or domestic purposes. This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several days to weeks after application. Poorly draining soil with shallow water tables is more prone to produce runoff. A level well maintained vegetative (grass) buffer strip between areas to which this product is applied and the surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Pollinator Advisory: *This product is moderately toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms. Cormoran® contains an insect growth regulator (Novaluron). While Novaluron will not act on adult pollinators and it is not systemic, it has the potential to impact larval bees (i.e., in the brood). Therefore, when using this product take steps to:*

- o Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants in and around the application site.
- o Minimize drift of this product onto beehives or to off-site pollinator attractive habitats. Drift of this product onto beehives or off-site to pollinator attractive habitats can result in bee larvae kills.

Ground Water Advisory: Acetamiprid has properties and characteristics associated with chemicals detected in ground water. Acetamiprid may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory: Acetamiprid may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. Acetamiprid is classified as having a high potential for reaching both surface water via runoff several months or more after application. Avoid accidental or intentional application of this product to ditches, swales, drainage ways, or impervious surfaces such as driveways. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours after application may cause unintended runoff of pesticide application.

DIRECTIONS FOR USE

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

USE RESTRICTIONS

- Apply this product only as specified the EPA approved label.
- **DO NOT** apply this product in a way that it will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
- The use of Novaluron on crops grown for food in commercial greenhouses, except tomatoes and cucumbers, is prohibited.
- **DO NOT** allow Cormoran to drift on grapes as leaf spotting may occur.
- For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Water Protection Statements:

- **DO NOT** spray the product into fish pools, ponds, streams, or lakes. **DO NOT** apply directly to sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.
- **DO NOT** allow the product to enter any drain during or after application.
- **DO NOT** apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.
- **DO NOT** apply or irrigate to the point of runoff.

Rain Related Statements:

- **DO NOT** make applications during rain. Avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours).
- Rainfall within 24 hours after application may cause unintended runoff of pesticide application.

BUFFER ZONES

Vegetative Buffer Zones: Construct and maintain a minimum 25-foot 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; and estuarian/marine habitats). Only apply products containing novaluron onto fields where a well-maintained vegetative buffer strip of at least 25 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. 21pp.

<https://permanent.access.gpo.gov/ps9018/www.wcc.nrcs.usda.gov/water/quality/common/pestmgt/files/newconbuf.pdf>.

Buffer Zone for Airlast Application (All Crops): DO NOT apply by airlast equipment within 75 feet of bodies of water such as lakes, reservoirs, rivers, permanent streams, natural ponds, marshes or estuaries. All applications must include a 25-foot vegetative buffer strip within the buffer zone to decrease runoff.

Buffer Zone for Aerial Application (All crops except Cotton): DO NOT apply by air equipment within 150 feet of bodies of water such as lakes, reservoirs, rivers, permanent streams, natural ponds, marshes or estuaries. All applications must include a 25-foot vegetative buffer strip within the buffer zone to decrease runoff.

Buffer Zone for Aerial Application to Cotton: DO NOT apply by air equipment within 250 feet of bodies of water such as lakes, reservoirs, rivers, permanent streams, natural ponds, marshes or estuaries. All applications must include a 25-foot vegetative buffer strip within the buffer zone to decrease runoff.

AGRICULTURAL USE REQUIREMENTS

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves, made of barrier laminate, or butyl rubber \geq 14 mils or neoprene rubber \geq 14 mils or polyvinyl chloride \geq 14 mils or Viton \geq 14 mils.
- Shoes plus socks.
- Protective eyewear.

PRODUCT INFORMATION

Cormoran is a dispersible concentrate insecticide containing the active ingredients novaluron and acetamiprid, which controls listed sucking and chewing insects. Novaluron and acetamiprid must be ingested and/or contacted by listed insects to be effective. Proper application techniques help ensure thorough spray coverage and correct dosage necessary to obtain maximum control. Apply at the required rates when most of insect population is at egg hatch or first instar. Consult the cooperative extension service, professional consultants, or other qualified authorities to determine appropriate pest pressure threshold for treatment in your area. Repeat applications of Cormoran per DIRECTIONS FOR USE to keep population within economic limits. Scout fields regularly to determine optimum application timing based on pest levels and stages of growth.

RESISTANCE MANAGEMENT RECOMMENDATIONS

Cormoran contains both a Group 15 and a Group 4A insecticide. Any insect population may contain individuals naturally resistant to Cormoran and other Group 15 and/or Group 4A insecticides. The resistant individuals may dominate the insect population if these groups of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed. To reduce the potential for developing insect resistance, rotate to an insecticide with a different mode of action. Monitor treated pest populations for resistance development. Read the product label before applying any insecticide and follow label directions.

To delay insecticide resistance, take the following steps:

- Rotate the use of Cormoran or other Group 15 and/or Group 4A insecticides within a growing season, or among growing seasons, with different groups that control the same pests. Avoid application of more than the maximum seasonal use rate or the total number of consecutive sprays of Cormoran per season.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. **DO NOT** rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact ADAMA. representatives at 1-866-406- 6262 or at www.adama.com.

APPLICATION PROCEDURES

Spray Volume: Cormoran may be applied in a minimum of 15 gallons of spray solution per acre by ground sprayer or in a minimum of 5 gallons of spray solution per acre by aircraft spray equipment.

For tree nuts apply in a minimum of 50 gallons of spray solution per acre by airblast spray or in a minimum of 10 gallons per acre by air.

Check equipment calibration frequently. Complete coverage and uniform application are essential for the most effective results, especially when lower spray volumes are applied. If necessary, increase the spray volume per acre for complete crop coverage (e.g., pome and stone fruit apply up to 400 GPA).

Chemigation: For chemigation use only on cranberries and potatoes. Chemigation should only be used after foliage has emerged and only through overhead sprinkler irrigation systems. Apply this product only through overhead sprinkler irrigation systems including center pivot, and lateral move, side (wheel) roll, solid set, or hand move irrigation systems after cranberry and potato foliage has emerged. **DO NOT** apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. The overhead sprinkler chemigation 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. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed for materials that are compatible with pesticides and capable of being fitted with a system interlock.

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. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) of the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. **DO NOT** apply this product through any other type of irrigation system. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Upon completion of insecticide application, remove scale, pesticide residues, and other foreign matter from the supply tank and entire injector system.

DO NOT apply when wind speed favors drift beyond the area intended for treatment.

Sprinkler Chemigation: For sprinkler chemigation use only on cranberries and potatoes.

For continuously moving systems, the mixture containing Cormoran must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. If continuously moving irrigation equipment is used, apply in no more than 0.25 inch of water. For sprinkler systems that **DO NOT** move during operation, apply in no more than 0.25 inch of irrigation immediately before the end of the irrigation cycle. Maintain continuous agitation of the pesticide supply tank for the duration of the application period.

To apply a pesticide using sprinkler chemigation, the chemigation system must meet the following specifications:

- * The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- * The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- * The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- * The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- * Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- * **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

Airblast Applications: Apply required dosage by conventional airblast sprayer equipment capable of delivering a minimum of 15 gallons of water per acre to obtain thorough, uniform coverage of the target crop. Orient spray equipment boom and nozzles in a manner to minimize boom height, to optimize coverage uniformity, maximize deposition, and reduce spray drift. Drop nozzles may be required to obtain uniform coverage against certain pests that develop down in the canopy. Use hollow cone, disc-core hollow cone or twin jet fan nozzles suitable for insecticide spraying.

Orchard Applications: Apply Cormoran by conventional orchard sprayers that are calibrated to deliver 50 to 400 gallons of carrier to the trees. Apply at a carrier volume that insures complete coverage to trees. Operate spray equipment at proper airblast speeds, adequate sprat pressures and spray volumes that assure that the air volume within the tree canopy is completely replaced by the output from the airblast sprayer resulting in proper coverage of the target crop. **DO NOT** use in alternate row middle application patterns since this method will result in off-timing application and poor performance.

Aerial Applications (for all crops): For aerial application in a total of 5 to 10 gallons of water per acre, using a nozzle configuration that will provide a median droplet size of 200-300 microns. Higher gallonage will provide better coverage and performance. Adhere to the minimum safe application height – not greater than 12 feet above crop canopy. Boom length must be less than 75% of wingspan, and swath markers. Use flagging or GPS system during application. Make applications when wind speed is between 2 and 10 MPH. **DO NOT** make application when wind speed exceeds 10 MPH. Under low humidity and high temperatures, adjust spar volume upward to compensate for evaporation of spray droplets.

MIXING INSTRUCTIONS

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions regarding spraying.

Mandatory Spray Drift Management

Airblast Applications:

- Spray must be directed into the canopy.
- **DO NOT** apply when wind speeds exceed 15 miles per hr at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying out now.
- **DO NOT** apply during temperature inversions.

Aerial applications:

- **DO NOT** release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with a American Society of Agricultural & Biological Engineers Standard 641 (ASABE S641).
- **DO NOT** apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for the fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply during a temperature inversion.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with a American Society of Agricultural & Biological Engineers Standard 572 (ASABE S572).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

Boomless Ground Applications:

- Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with a American Society of Agricultural & Biological Engineers Standard 572 (ASABE S572).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

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

IMPORTANCE OF DROPLET SIZE

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

Controlling Droplet Size – Ground Boom

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

Controlling Droplet Size – Aircraft

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

BOOM HEIGHT – Ground Boom

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

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS

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

TEMPERATURE AND HUMIDITY

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

TEMPERATURE INVERSIONS

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

WIND

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

Boom-less Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

Take precautions to minimize spray drift

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Ultra Low Volume (ULV) application is not permitted.

MIXING PROCEDURES

1. Be sure sprayer is clean and not contaminated with any other materials or crop injury or sprayer clogging may result.
2. Fill tank 1/2 full with clean water.
3. Start agitation.
4. Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface.
5. Pour appropriate amount of product directly from container into partially filled spray tank.
6. Continue filling tank until desired dilution has been achieved. Increase agitation if necessary to maintain surface action.
7. Maintain continuous agitation during mixing and application to assure uniform suspension. If mixture sits without agitation for extended periods, agitate the mixture for at least 10 minutes before use.

When an adjuvant is to be used with this product, ADAMA suggests the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

Tank Mixing & Product Compatibility: It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. To determine the compatibility of Cormoran with other products, the following procedure should be followed: Pour the recommended proportions of the products into a suitable container of water, mix thoroughly and allow to stand at least five (5) minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered physically compatible. For further information, contact your local ADAMA representative.

CROPS

Beans

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Chickpea, Garbanzo Bean, Sweet Lupine, White Sweet Lupine White Lupine, Gain Lupine, Kidney Bean, Lima Bean, Mung Bean, Pinot Bena, Snap Bean, Wax Bean, Broad Bean, Fava Bean, Asparagus Bean, Blackeyed Pea, Cowpea and Cultivars, and Varieties Of These.	Aphids, Arymworms, Bean Leaf Beetle, Bean Plataspid, Cucumber Beetle, Leafhoppers, Loopers, Mexican Bean Beetle, Webworms	9 to 12	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. Aphid and thrips species may differ in susceptibility to this product. If you are unsure of the aphid or thrips species present and its susceptibility, use the higher rates within the listed rate range.
	Lygus Bugs, Thrips, Whiteflies	12	DO NOT apply more than two applications against whiteflies or thrips per season.

Beans Use Restrictions:

- **DO NOT** apply more than 0.23 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.3 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 36.0 fl oz (0.23 lb of Novaluron and 0.19 lb of Acetamiprid) of formulated product per acre per year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 7 days apart.
- Preharvest interval of 7 days.
- Restricted entry interval (REI) of 12 hours.
- Use the high rates within the listed rate range and higher spray volumes when larvae are large or foliage canopy is tall or dense.

Berries (Low-Growing) (see separate directions for Strawberries)

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Bearberry, Billberry, Blueberry (lowbush), Cloudberry, Cranberry (lowbush), Lingonberry, Muntries, Partridgeberry and Cultivars, Varieties and/or hybrids of these.	Aphids, Leafhoppers	9 to 12	Apply in a minimum finished spray volume of 10 gallons per acre by air or 20 gallons per acre by ground.
	Blackheaded Fireworm, Blueberry Maggot, Cranberry Blossomworm, Cranberry Flea Beetle, Cranberry Fruitworm, Cranberry Spanworm, Cranberry Tipworm, Drosophila spp (Including Spotted Winged Drosophila), Gypsy Moth, Japanese Beetle, Oblique Banded Leaf Roller, Plant Bugs, Sap Beetle, Sparganothis Fruitworm, Spanworm, Spittlebug, Spotted Fireworm, Thrips, Whitefly	12	

Berries (Low-Growing) (see separate directions for Strawberries) Use Restrictions:

- **DO NOT** apply more than 0.23 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.26 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 36.0 fl oz (0.23 lb of Novaluron and 0.19 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 7 days apart.
- Preharvest interval of 1 day.
- Restricted entry interval (REI) of 12 hours.
- Some phytotoxic symptoms to foliage in the form of mottled chlorosis may be observed when Cormoran Is applied to blueberries under conditions of high temperatures and/or drought stress, particularly during periods of new, tender shoot growth. Such phytotoxic symptoms will not occur on future growth, and will not affect fruiting or yields. Higher spray volumes and lower spray concentration will minimize the risk of transient phytotoxic symptoms on newly expanded foliage.

DO NOT flood cranberry bogs within 60 days following an application of Cormoran.

Bushberries

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Aronia Berry, Blueberry (highbush), Buffalo Currant, Chilean Guava, Cranberry (highbush), Black Currant, Red Currant, Elderberry, European Barberry, Gooseberry, Honeysuckle (edible), Huckleberry, Jostaberry, Juneberry, Lingonberry, Native Currant, Sea Buckthorn and Cultivars, Varieties and/or hybrids of these.	Aphids, Blueberry Flea Beetle, Blueberry Gall Midge, Blueberry Maggot, Blueberry Spanworm, Cherry Fruitworm, Cranberry Fruitworm, Drosophil Spp. Including Spotted Wing Drosophila, Flea Beetle, Japanese Beetle, Leafhoppers, Oblique-banded Leafroller, Plum Curculio, Sap Beetles, Spanworm, Sparganothis Fruitworm, Strawberry Rootworm, Tarnished Plant Bug, Thrips, Western Raspberry Fruit Worm, Whitefly	20	Apply in a minimum finished spray volume of 5 gallons per acre by air or 20 gallons per acre by ground.

Bushberries Use Restrictions:

- **DO NOT** apply more than 0.58 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.5 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 89.0 fl oz (0.58 lb of Novaluron and 0.46 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 10 days apart.
- Preharvest interval of 8 days.
- Restricted entry interval (REI) of 12 hours.
- Some phytotoxic symptoms to foliage in the form of mottled chlorosis may be observed when Cormoran 1s applied to blueberries under conditions of high temperatures and/or drought stress, particularly during periods of new, tender shoot growth. Such phytotoxic symptoms will not occur on future growth, and will not affect fruiting or yields. Higher spray volumes and lower spray concentration will minimize the risk of transient phytotoxic symptoms on newly expanded foliage.

Cotton

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Cotton	Aphids, Tobacco Budworm, Cotton Bollworm Fleahoppers	6 to 9	DO NOT apply more than four applications against armyworm or other foliage feeding caterpillars per season.
	Beet Armyworm, Fall Armyworm, Foliage Feeding Caterpillars	6 to 12	DO NOT apply more than two applications against whiteflies per season.
	Plantbugs, Stink Bugs, Thrips	9 to 12	DO NOT apply more than two applications against thrips per season.
	Whitefly	12	

Cotton Use Restrictions:

- **DO NOT** apply more than 0.27 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.4 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 41.0 fl oz (0.26 lb of Novaluron and 0.21 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 7-14 days apart.
- Preharvest interval of 30 days.
- Restricted entry interval (REI) of 12 hours.

Cucurbits

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Balsam Apples, Balsam Pears, Bitter Melon, Cantaloupe, Chayote (Fruit), Chinese Cucumber, Chinese Waxgour, Citron Melon, Cucumbers, Gherkin, Gourds (Hyotan, Cucuzza, Hechima, Chinese okra), Muskmelon (Cantaloupe, Honeydew), Pumpkins, Squash (Summer and Winter: Butternut, Calabaza, Hubbard, Acorn, Spaghetti), Watermelon and Cultivars, Varieties and/or hybrids of these.	Armyworms, Aphids, Cucumber Beetles, Leafhoppers, Leafminers (Lepidopteran), Loopers, Whitefly	9 to 12	Apply in a minimum finished spray volume of 5 gallons per acre by air or 20 gallons per acre by ground. DO NOT apply more than two applications against whiteflies or thrips per season.
	Leafminer (Dipteran), Melonworm, Pickleworm, Sap Beetles, Squash Bug, Squash Vine Borer, Thrips	12	

Cucurbits Use Restrictions:

- **DO NOT** apply more than 0.23 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.5 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 36.0 fl oz (0.23 lb of Novaluron and 0.19 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 14 days apart.
- Preharvest interval of 1 day.
- Restricted entry interval (REI) of 12 hours.

Fruiting Vegetables

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Eggplant, Groundcherry, Pepino, Pepper (Chile, Bell, Non-Bell, Pimento, Sweet), Tomato (Including Bush and Currant Tree), Tomatillo and Cultivars, Varieties and/or hybrids of these.	Colorado Potato Beetle	9	Apply in a minimum finished spray volume of 5 gallons per acre by air or 20 gallons per acre by ground. For Colorado potato beetle, DO NOT apply more than twice to a single generation and DO NOT apply to successive generations. DO NOT apply more than two applications against whiteflies or thrips per season.
	Armyworms, Aphids, European Corn Borer, Foliage Feeding Caterpillars, Leafminers (Lepidopteran), Loopers, Pepper Weevil, Tomato Fruitworm, Tomato Hornworm, Tomato Pinworm, Whitefly (Field Only)	9-12	
	Leafminers (Dipteran), Stink Bugs, Thrips	12	

Fruiting Vegetables Use Restrictions:

- **DO NOT** apply more than 0.23 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.3 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 36.0 fl oz (0.23 lb of Novaluron and 0.19 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 7 days apart.
- Preharvest interval of 7 days.
- Restricted entry interval (REI) of 12 hours.

Head and Stem Brassica Vegetables

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Broccoli, Chinese Broccoli, Brussels Sprouts, Cabbage, Chinese Cabbage, Chinese Mustard Cabbage, Cauliflower, Cavalo Broccolo, Kohlrabi and Cultivars, Varieties and/or hybrids of these.	Alfalfa Looper, Armyworms, Aphids, Cabbage Looper, Cabbage Webworm, Corn Earworm, Cucumber Beetles, Imported Cabbageworm, Leafminers (Lepidopteran), Southern Cabbageworm	9 to 12	Apply in a minimum finished spray volume of 5 gallons per acre by air or 20 gallons per acre by ground. DO NOT apply more than two applications against whiteflies or thrips per season.
	Bagrada Bugs, Diamondback Moth, Leafminers (Dipteran), Lygus Bugs, Stink Bugs, Swede Midge, Thrips, Vegetable Weevil, Whitefly (field use only)	12	

Head and Stem Brassica Vegetables Use Restrictions:

- **DO NOT** apply more than 0.15 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.37 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 24.0 fl oz (0.15 lb of Novaluron and 0.12 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 7 days apart.
- Preharvest interval of 7 days.
- Restricted entry interval (REI) of 12 hours.

Leafy Greens Brassica (Crop Group 4-16B)

CROPS	PESTS	PRODUCT RATE PER ACRE (Fl. Oz. / Acre)	REMARKS
Arugula, Broccoli (Chinese), Broccoli raab, Cabbage (abysianian), Cabbage (Chinese, bok choy), Cabbage (seakale), Collards, Cress (garden, upland), Hanover salad, Kale, Maca leaves, Mizuna, Mustard greens, Radish leaves, Rape greens, Rocket (wild), Shepherd's purse, Turnip greens, Watercress*; cultivars varieties, and hybrids of these commodities *Not registered for use in CA.	Aphids	6-12	Aphid species may differ in susceptibility to this product. If you are unsure of the aphid species present or if there are difficult to control species such as lettuce aphid, red aphid, foxglove aphid, etc., use the maximum rate within the listed rate range. Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.
	Whitefly Sweet Potato Silver Leaf Greenhouse (For Field Use Only)	9-12	Begin applications when whitefly adults appear prior to development of nymphs. DO NOT wait until heavy populations have become established. Use of an adjuvant is recommended to improve coverage and control. Use the high rates within the listed rate range under heavy pressure Whiteflies have shown a tendency to develop resistance. For resistance management purposes, alternating applications of different chemical classes reduces the potential for resistance development.
	Alfalfa Looper Armyworms Cabbage Loopers Cabbage Webworm Corn Earworm Cucumber Beetles Diamondback Moth Imported Cabbageworm Leafminers (Dipteran and Lepidopteran) Southern Cabbageworm	6-12	Apply when the majority of the population is at egg hatch to the second instar. For adult and large nymph control, tank mix with an adjuvant. Use the high rates within the listed rate range and higher spray volumes when larvae are large, when target pests populations is 2X or more above state threshold level or foliage canopy is tall or dense. Repeat applications as needed to protect new growth, but not less than 7 days apart.
Thrips	12	Begin applications as soon as thrips are seen in the crop and continue applications as needed. Thrips will seek sheltered parts of the plant so using nozzles that produce a fine spray with sufficient water for thorough coverage is essential for good control. Applications during the "cupping" stage of cabbage may be especially helpful in preventing injury. For resistance management purposes, alternating applications of different chemical classes reduces the potential for resistance development.	

Leafy Greens Brassica Restrictions:

- **DO NOT** apply more than 0.15 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.37 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 23.0 fl oz of formulated product per acre per season.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 7 days apart.
- **DO NOT** apply to turnips harvested for the root.
- **DO NOT** feed turnip tops to livestock.
- Preharvest interval (PHI) of 7 days.
- For application made to Watercress, production fields must be drained of water at least 24 hours prior to application and water must not be reapplied to the field for a minimum of 24 hours following the application.
- Restricted entry interval (REI) of 12 hours.

Pears

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Pear, Asian Pear, Quince Chinese Pear, Quince Japanese Pear, Tejacote and Cultivars, Varieties and/or hybrids of these.	Aphids, Apple Maggot, Budmoths, Codling Moth, Dogwood Borer, European Apple Sawfly, Lacanobia Fruitworm, Leafhoppers, Leafminers, Leafrollers, Lesser Appleworm, Plum Curculio, Japanese Beetle, Mealybug, Mullein Plant Bug, San Jose Scale (Suppression), Tentiform Leafminer, Oriental Fruit Moth, Plant Bug, Psylla, White Apple Leafhopper, Stink Bugs (Including Brown Marmorated Stink Bug)	20 to 28	Apply in a minimum finished spray volume of 50 to 400 gallons per acre by airblast and insure complete spray coverage

Pears Use Restrictions:

- **DO NOT** apply more than 0.97 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.6 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 95.0 fl oz (0.62 lb of Novaluron and 0.49 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 10-14 days apart.
- Preharvest interval of 12 days.
- Restricted entry interval (REI) of 12 hours.
- **DO NOT** apply this product when crop is in bloom.
- Phytotoxicity: Given the right set of environmental conditions phytotoxicity may occur when applied after pear turn-down. Factors increasing the probability of crop injury are: 1) varietal sensitivity; 2) excessive rainfall, high temperatures and/or drought. And 3) incompatibility with other products (e.g., oils or strobilurin fungicides).

Pome Fruits (EXCEPT Pears) see separate directions for Pears)

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Apple, Crabapple, Loquat, Mayhaw and Cultivars, Varieties and/or hybrids of these.	Aphids, Apple Maggot, Budmoths, Codling Moth, Dogwood Borer, European Apple Sawfly, Lacanobia Fruitworm, Leafhoppers, Leafminers, Leafrollers, Lesser Appleworm, Plum Curculio, Japanese Beetle, Mealybug, Mullein Plant Bug, San Jose Scale (Suppression), Oriental Fruit Moth, Plant Bug, Pear Psylla, Psylla, White Apple Leafhopper, Stink Bugs (Including Brown Marmorated Stink Bug), Thrips*	20 to 28	Apply in a minimum finished spray volume of 50 to 400 gallons per acre by airblast and insure complete spray coverage. DO NOT apply more than two applications against whiteflies or thrips per season.

Pome Fruit (except Pears) Use Restrictions:

- **DO NOT** apply more than 0.62 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.6 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 95.0 fl oz (0.62 lb of Novaluron and 0.49 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 12 days apart.
- Preharvest interval of 14 days.
- Restricted entry interval (REI) of 12 hours.
- **DO NOT** apply this product when crop is in bloom.
- * Not registered for Use in California.

Potatoes and Sweet Potatoes

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Arracacha, Arrowroot, Chinese Artichoke, Jerusalem Artichoke, Canna (edible), Cassava (Bitter and Sweet), Chayote (Root), Chufa, Dasheen, Ginger, Leren, Sweet Potato Tanier, Tumeric, Yam (Bean and True) and Cultivars, Varieties and/or hybrids of these.	Armyworms, Colorado Potato Beetle, Cucumber Beetle, Flea Beetle, Foliage Feeding Caterpillars, Leafhoppers, Loopers, Potato Tuberworm, Sweet Potato Leafminer,	6 to 12	Apply in a minimum finished spray volume of 5 gallons per acer by air or 20 gallons per acer by ground. DO NOT apply to successive generations of Colorado potato beetle. DO NOT apply more than two applications against whiteflies per season.
	Aphids, European Corn Borer	9 to 12	
	Potato Psyllid, Whiteflies	12	
<p>Potatoes and Sweet Potatoes Use Restrictions:</p> <ul style="list-style-type: none"> • DO NOT apply more than 0.15 lb Novaluron active ingredient containing products per acre per calendar year. • DO NOT apply more than 0.3 lb Acetamidrid active ingredient containing products per acre per calendar year. • DO NOT apply more than 23.0 fl oz (0.15 lb of Novaluron and 0.12 lb of Acetamidrid) of formulated product per acre per calendar year. • Repeat applications if needed to maintain control, but DO NOT make applications less than 7-14 days apart. • Preharvest interval of 14 days. • Restricted entry interval (REI) of 12 hours. • DO NOT make a foliar application of Cormoran following a seed treatment application of acetamidrid in the same crop. 			

Stone Fruits

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Apricot, Japanese Apricot, Capulin, Black Cherry, Nanking Cherry, Sweet Cherry, Tart Cherry, Chinese Jujube, Nectarine, Peach, Plum, American Plum, Beach Plum, Canada Plum, Cherry Plum, Chicksaw Plum, Damson Plum, Japanese Plum, Klamath Plum, Prune, Plumcote, Sloe, and Cultivars, Varieties and/or hybrids of these.	Aphids, Leafhoppers, Lesser Peachtree Borer, Peachtree Borer, Sap Beetle	20	Apply in a minimum finished spray volume of 50 to 400 gallons per acre by airblast and insure complete spray coverage.
	Black Cherry Fruit Fly, Cat-facing Insects, Cherry Fruit Fly, Fruit Flies, Glassywinged Sharpshooter, Japanese Beetle, Leafrollers, Oriental Fruit Moth, Peach Twig Borer, Plum Curculio, Rose Chafer, San Jose Scale, Stink Bugs, (Including Brown Marmorated Stink Bug) Western Cherry Fruit Fly or <i>Drosophila</i> spp (Including Spotted Winged <i>Drosophila</i>), Thrips *	20 to 28	DO NOT make alternate row treatments.

Stone Fruits Use Restrictions:

- **DO NOT** apply more than 0.97 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.6 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 95.0 fl oz (0.62 lb of Novaluron and 0.49 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 10 days apart.
- Preharvest interval of 8 days.
- Restricted entry interval (REI) of 12 hours.
- **DO NOT** apply this product when crop is in bloom.
- * Not registered for Use in California.

Strawberries

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Strawberry	Aphids, Leafhoppers, Spittlebug	9 to 12	Apply in a minimum finished spray volume of 10 gallons per acre by air or 20 gallons per acre by ground.
	Armyworms, Asian Cockroach, Corn Earworm, Drosophila spp (Including Spotted Winged Drosophila), Japanese Beetle, Looper, Plant Bugs, Sap Beetle, Thrips, Webworms, Whiteflies	12	

Strawberries Use Restrictions:

- **DO NOT** apply more than 0.23 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.26 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 36.0 fl oz (0.23 lb of Novaluron and 0.19 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 7 days apart.
- Preharvest interval of 1 day.
- Restricted entry interval (REI) of 12 hours.

Sweet Corn

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	APPLICATION METHODS
Sweet Corn	Aphids, Armyworms, Corn Earworms, Cucumber Beetle, European Corn Borer, Grasshoppers (adults only)	9 to 12	Apply in a minimum finished spray volume of 5 gallons per acer by air or 20 gallons per acer by ground.
	Corn Flea Beetle, Corn Rootworm Adults, Corn (Dusky) Sap Beetle, Corn Silk Fly, Stink Bugs, Japanese Beetle Adults	12	

Sweet Corn Use Restrictions:

- **DO NOT** apply more than 0.39 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.21 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 40 fl oz (0.26 lb of Novaluron and 0.20 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 14 days apart.
- Preharvest interval of 7 days.
- Restricted entry interval (REI) of 12 hours.
- The retreatment of sweet corn with Cormoran is prohibited (i.e., only 1 application at 11 fl oz per acre) arid areas which receive less than 20 inches of precipitation (including irrigation) per year.

Tree Nuts - Crop Group 14-12

CROPS	TARGET PESTS	PRODUCT RATES (Fl. Oz. / Acre)	REMARKS
Almond Beech nut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert (hazelnut) Hickory nut Macadamia nut Pecan Pistachio Walnut (black and English)	Navel Orangeworm	18 to 27	For almonds, make an application at 1-5% hull split timing. Reapply 14 days later. Under heavy infestation, reapply a third time 14 days later. Depending on level of pest infestation, use of higher rates in the labeled range may be warranted. In walnuts, apply at initiation of egg hatch.
	Aphids Leafhoppers	10 to 27	Aphid species may differ in susceptibility to this product. If aphid species cannot be identified and its susceptibility is in question, use the higher rates within the listed product rate range. Use of higher rates for Black Pecan Aphid is recommended. On large, mature trees use of the higher rate within the listed rate range may be necessary for adequate control at the top of the trees. Use of an appropriate adjuvant will improve coverage and control.
	Glassy-winged Sharpshooter Pecan Nut Casebearer	14 to 24	For Pecan Nut Casebearer, apply at initiation of egg hatch for each generation. Control of first generation may require second application to ensure complete coverage of rapidly expanding nuts and foliage, or under conditions of extended egg lay. Use of the high rates within the listed rate range is recommended.
	Codling Moth Oriental Fruit Moth Peach Twig Borer San Jose Scale Hickory Shuckworm Pecan Weevil Redhumped Caterpillar Filbertworm	19 to 27	Residual control varies by rate. Use the higher rates within the listed rate range for extended control and on tall, mature trees with dense foliage. For control of Oriental Fruit Moth (OFM) and Peach Twig Borer (PTB), make a delayed dormant application with oil prior to bud break. For Codling Moth, OFM, and PTB, make in-season applications at moth flights using appropriate degree day models. The addition of horticultural oil is recommended for improved performance. For best results against San Jose Scale, apply as a dormant/delayed dormant application with oil, and time in-season applications for the crawler stage. For best results against Pecan Weevil use the highest rate within the listed rate range. For all uses, consult manufacturers specific oil labels for precautions and restrictions.
	Walnut Husk Fly	23 to 27	Apply once gravid (egg producing) adult females are observed. Add a recommended rate of husk fly bait. Repeat application in 21 to 28 days if needed.
	Gill's Mealybug	27	Apply as crawlers emerge. Apply with enough water to provide thorough coverage of all surfaces. Inclusion of a horticultural oil or penetrating adjuvant (no stickers) may enhance control. Consult manufacturers specific oil labels for precautions and restrictions.

Tree Nut Use Directions:

Thorough coverage is important to obtain optimum control. Apply in a minimum finished spray volume of 50 gallons per acre by airblast and insure complete spray coverage. For best results apply 100 to 200 gallons water per acre by ground. Complete sprays (every row) are recommended. Use of pheromone traps in conjunction with degree days are good indicators that can be used to determine spray timings. Consult your local Extension Service, Crop Advisor or ADAMA representative for additional Glassy-winged Sharpshooter information.

Tree Nut Use Restrictions:

- **DO NOT** apply more than 0.53 lb Novaluron active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.18 lb of Novaluron active ingredient per acre per single application.
- **DO NOT** apply more than 0.42 lb Acetamiprid active ingredient containing products per acre per calendar year.
- **DO NOT** apply more than 0.14 lb Acetamiprid active ingredient per acre per single application.
- **DO NOT** apply more than 81 fl oz (0.53 lb of Novaluron and 0.42 lb of Acetamiprid) of formulated product per acre per calendar year.
- Repeat applications if needed to maintain control, but **DO NOT** make applications less than 14 days apart.
- **DO NOT** make more than 3 applications per calendar year.
- Preharvest interval of 7 days.
- Restricted entry interval (REI) of 12 hours.
- **DO NOT** apply this product when crop is in bloom (excluding pecans).

ROTATIONAL CROPS

Only registered crops may be rotated in a treated field within 30 days of final application.

IMPORTANT: READ BEFORE USE

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

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Keep this product in its tightly closed original container. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals, in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed.

DO NOT store above 100°F for extended periods of time. Storage below 20°F can result in formation of crystals. If product crystallizes, store at 50°F to 70°F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

PESTICIDE DISPOSAL: Open dumping is prohibited. Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the hazardous waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

NONREFILLABLE CONTAINERS:

Rigid, Nonrefillable containers small enough to shake (i.e. with capacities equal to less than five gallons).

Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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 or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Pressure rinse as follows: 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 a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

Rigid, Nonrefillable containers that are too large to shake (i.e. with capacities greater than 5 gallons or 50 lbs).

Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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. Offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Pressure rinse as follows: 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 a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

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

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of ADAMA. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ADAMA makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of ADAMA is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, ADAMA disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

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 ADAMA's election, the replacement of product.

Cormoran® is a registered trademark of an ADAMA Group Company.

Manufactured for:

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
8601 Six Forks Road, Suite 300
Raleigh, NC 27615

031022.v1

Cormoran®

ACETAMIPRID	GROUP	4A	INSECTICIDE
NOVALURON	GROUP	15	INSECTICIDE

PEEL BACK BOOK HERE

Insecticide

For agricultural use only on berries, brassica head and stem, brassica leafy greens, cotton, fruiting vegetables, pome fruits, potatoes, stone fruits, strawberries, sweet corn, and tree nuts.

ACTIVE INGREDIENTS:	% BY WT.
Novaluron	9.1%
Acetamiprid	7.3%
OTHER INGREDIENTS:	83.6%
TOTAL:	100.0%

Cormoran is a dispersible concentrate insecticide contains 0.84 pounds of novaluron per gallon and 0.67 pounds of acetamiprid per gallon.

EPA Reg. No. 66222-264

EPA Est. No. 37429-GA-1^{BT},
37429-GA-2^{BO}; 37429-GA-3^{BY}

Letter(s) in lot number correspond(s)
to superscript in EPA Est. No.

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUTION

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.)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION/PRECAUTION

Harmful if absorbed through skin or if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash hands 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. Keep out of reach of children and domestic animals.

How can we help?
1-866-406-6262

Manufactured for:

Makhteshim Agan of North America, Inc.
(d/b/a ADAMA)

8601 Six Forks Road, Suite 200
Raleigh, NC 27615



INSECTICIDE

ADAMA

Net Contents
2.5 gallons

FIRST AID
IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by a poison control center or doctor. DO NOT give anything by mouth to an unconscious person.
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Note to Physician: Contact with the eyes may cause irritation. Symptoms of Poisoning: The compound does not cause any definite symptoms that would be diagnostic. Have the product container or label with you when calling a poison control center or doctor or going for treatment. For non-emergency general information on this pesticide product (including health concerns or pesticide incidents), you may call PROPHARMA at 1-877-250-9291, 24 hours per day, 7 days per week.

In case of spills, fire, leaks or accident, call INFOTRAC at 1-800-535-5053.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal. **PESTICIDE STORAGE:** Keep this product in its tightly closed original container. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals, in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. **DO NOT** store above 100°F for extended periods of time. Storage below 20°F can result in formation of crystals. If product crystallizes, store at 50°F to 70°F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below. **PESTICIDE DISPOSAL:** Open dumping is prohibited. Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the hazardous waste representative at the nearest EPA Regional Office for guidance. **Container HANDLING: NONREFILLABLE CONTAINERS: Rigid, Nonrefillable containers small enough to shake (i.e. with capacities equal to less than five gallons).** Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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 or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Pressure rinse as follows: 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 a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

For additional precautionary, handling and use statements, see inside of this booklet.

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