



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

May 17, 2021

Solito Sumulong  
Manager of Registrations  
Loveland Products Inc.  
PO Box 1286  
Greeley, CO 80632-1286

Subject: Registration Review Label Mitigation for Methoxyfenozide  
Product Name: Invertid 2F  
EPA Registration Number: 34704-1107  
Application Date: 6/21/2018  
Decision Number: 575358

Dear Solito Sumulong:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Methoxyfenozide Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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If you have any questions about this letter, please contact Anthony Nicome by phone at 703-347-0380, or via email at [nicome.anthony@epa.gov](mailto:nicome.anthony@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Arrington".

Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure



# INVERTID® 2F



[Editor's Note for Reviewers: [Passages] in brackets indicate optional passages]

<b>ACTIVE INGREDIENT:</b>		<b>% BY WT.</b>
Methoxyfenozide: Benzoic acid, 3-methoxy-2-methyl-,2-(3,5-dimethylbenzoyl)-2-(1,1-dimethylethyl) hydrazide	.....	22.60%
<b>OTHER INGREDIENTS</b>	.....	77.40%
	<b>TOTAL</b>	<b>100.00%</b>

Contains 2.0 pounds per gallon active ingredient.

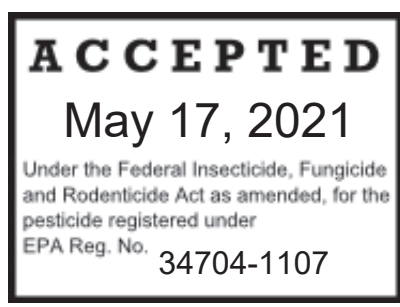
## KEEP OUT OF REACH OF CHILDREN CAUTION

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

FIRST AID	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor for treatment advice.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For general information on product use, etc., call the National Pesticides Information Center at 1-800-858-7378. **FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.**

EPA REG. NO. 34704-1107  
 EPA EST. NO. 34704-XX-XXX  
 NET CONTENTS 1.0 GAL (3.78 L)



EXP 0618

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

**Causes moderate eye irritation. Harmful if absorbed through skin or inhaled. Avoid breathing vapor or spray mist. Wear protective eyewear. Avoid contact with eyes, skin 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. Keep out of reach of children and domestic animals. Do not use with or store near any oxidizing or reducing agents.**

**Personal Protective Equipment (PPE):**

Mixers, loaders, applicators, and other handlers must wear

- long-sleeved shirts,
- long pants,
- shoes plus socks, and
- chemical resistant gloves made of any waterproof material (such as nitrile rubber, neoprene rubber, barrier laminate, polyvinyl chloride (PVC), or viton).

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 there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls**

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

**For Aerial Applicators**

Aerial applicators must be in enclosed cockpits.

**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**

Drift and runoff from applications of this product may be hazardous to sensitive aquatic invertebrates in water bodies adjacent to the treatment area. For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Methoxyfenozide can contaminate surface water through spray drift. Under some conditions, methoxyfenozide may also have a high potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow groundwater, areas with in-field canals or ditches that drain to overlaying tile drainage systems that drain to surface water.

Do not cultivate within 10 feet of aquatic areas to allow growth of a vegetative filter strip.

Do not apply by ground within 25 feet, or by air within 150 feet, of lakes, reservoirs, rivers, permanent streams, marshes, or natural ponds; estuaries and commercial fish farm ponds.

**Physical and Chemical Hazards**

Do not mix or allow coming in contact with oxidizing and reducing agent. Hazardous chemical reaction may occur.

**DIRECTIONS FOR USE**

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

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

**Read entire label before using this product.**

Not for Sale, Use, or Distribution in Nassau County and Suffolk County in New York State.

### 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 intervals. 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 4 hours.**

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

- coveralls,
- waterproof gloves, and
- shoes plus socks.

### 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 unprotected persons out of treated area until sprays have dried.**

### PRODUCT INFORMATION

Invertid 2F insecticide belongs to the diacylhydrazine class of insecticides and has a unique mode of action that mimics the action of the molting hormone of lepidopterous (moths, butterflies) larvae. Upon ingestion, larval stages of the order lepidoptera undergo an incomplete and developmentally lethal premature molt. This process interrupts and rapidly halts their feeding. Feeding typically ceases within hours of ingestion, although complete mortality of the larvae may take several days. Affected larvae often become lethargic and often develop discolored areas or bands between segments.

Invertid 2F is a narrow spectrum insecticide that specifically targets Lepidoptera, making it an ideal tool for Integrated Pest Management (IPM). Invertid 2F provides control of troublesome lepidoptera pests.

### Use Rate Determination

Carefully read, understand and follow label use rates and restrictions. Apply the amount specified in the following tables with properly calibrated aerial or ground spray equipment. Prepare only the amount of spray solution required to treat the measured acreage. Use the lower rates for light infestations of the target lepidopterous species and the higher rates for moderate to heavy infestations. Invertid 2F may be applied in either dilute or concentrate sprays so long as the application equipment is calibrated and adjusted to deliver thorough, uniform coverage. Use the specified amount of Invertid 2F per acre regardless of the spray volume used.

### Mixing Directions

**Always shake well before use. Avoid freezing.**

### Application Rate Reference Table

Application Rate of Invertid 2F (fl oz/A)	Active Ingredient Equivalent (lb ai/A)	Acres/Gallon of Invertid 2F
4.0	0.063	32
6.0	0.094	21
7.0	0.109	18
8.0	0.125	16
10.0	0.156	13
12.0	0.188	11
16.0	0.250	8
20.0	0.313	6
24.0	0.375	5

### Invertid 2F - Alone

Fill the spray tank one-third to one-half full of clean water and slowly pour Invertid 2F into the spray tank. Maintain agitation in the spray tank during mixing, loading and application. Triple rinse empty container and add rinsate to the spray tank.

### Invertid 2F - Tank Mix

Invertid 2F is believed to be compatible with most commonly used agricultural fungicides, insecticides, growth regulators, foliar fertilizers and spray adjuvants. However, whenever preparing a new tank mix, always conduct a compatibility test by mixing proportional amounts of all spray ingredients in a test vessel (jar). Shake the mixture vigorously and allow it to stand for 15 minutes. Rapid precipitation of the ingredients and failure to re-suspend when shaken indicates that the mixture is incompatible and should not be applied.

**Mixing Order for Tank Mixes:** Fill the spray tank with water to one-fourth to one-third of the required spray volume. Start agitation. Add different formulation types in the order indicated below, allowing time for complete dispersion and mixing after addition of each product. Allow extra dispersion and mixing time for dry flowable products. **When mixing with other products, observe the most restrictive precautions, use restrictions, and**

**other limitations on the labels for all products involved.**

Add different formulation types in the following order:

1. Water dispersible granules
2. Wettable powders
3. Invertid 2F and other aqueous suspensions

Maintain agitation and fill spray tank to three-fourths of total spray volume. Then add:

4. Emulsifiable concentrates and water-based solutions
5. Spray adjuvants
6. Foliar fertilizers

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose.

**Application Timing**

The activity of Invertid 2F is expressed primarily through ingestion by the target larvae. Consequently, the timing of application is dependent upon the feeding behavior of the target pest. For cryptic (internal) feeding larvae, application must be made prior to the time that surface feeding occurs, i.e., just prior to initiation of egg hatch. For foliar or surface feeding larvae, application may be made while active feeding is occurring.

Reapplication may be required to protect new flushes of foliage, rapidly expanding fruit, or for extended infestations. The reapplication interval will vary depending upon how rapidly the crop is growing, the generation time of the target pest and the duration of the infestation.

Invertid 2F is effective against all larval instars; however, it is good practice to make applications to early instars to minimize feeding damage. For best results, begin applications when threshold levels of moths, eggs or larvae occur. Consult the Cooperative Extension Service, or other qualified professional authorities, to determine the appropriate threshold and timing for application in your area.

**APPLICATION DIRECTIONS**

Invertid 2F must be ingested by insect larvae to be fully effective. Applications must be in a manner that assures uniform and thorough coverage. Higher water volume and increased spray pressure generally provide better coverage.

**SPRAY DRIFT**

**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 use a medium or coarser droplet size (ASABE S572.1).
- 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 not exceed 65% for fixed-wing aircraft and 75% for helicopters. Otherwise, boom length must not exceed 75% for fixed-wing aircraft and 90% for helicopters.
- Applicators must use 1/2-swath displacement upwind at the downwind edge of the field.
- Do not apply during temperature inversions. See characterization below.

**Airblast Applications**

- Sprays must be directed into the canopy
- User must turn off outward-pointing nozzles at row ends and when spraying outer rows.

**Ground Boom Applications**

- User must only apply with the manufacturer's recommended nozzle height, but not exceeding 4 feet above the ground or crop canopy.
- Applicators must use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions. See characterization below.

## 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 large droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions. In conditions of low humidity and high temperatures, use a coarser droplet size except where indicated for specific crops.

### 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 to 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. Wind speed must be measured adjacent to the application site on the upwind side immediately prior to application.

**Airblast Sprayer:** When using an airblast sprayer, coverage is also improved by operation of the sprayer at ground speeds that assure that the air volume within the tree canopy is completely replaced by the output from the airblast sprayer. Making applications in an alternate row middle pattern may result in less than satisfactory coverage and poor performance in conditions of high pest infestation levels, extremely large trees and/or dense foliage.

**Handheld Technology Applications:** Take precautions to minimize spray drift.

Adhere to the following buffer zones when applying this product near aquatic habitats (such as lakes, reservoirs, rivers, permanent streams, marshes, or natural ponds; estuaries and commercial fish farm ponds):

Application Method	Buffer Zone (feet)
ground boom	25
overhead chemigation	25
airblast	25
aerial	150

## Chemigation Application

Invertid 2F may be applied to cranberries and ornamentals through sprinkler irrigation equipment. Do not apply this product by chemigation unless specified in crop-specific directions in this label or Loveland Products supplemental labeling.

**General Directions for Chemigation:** Apply through a properly calibrated chemigation system that has the appropriate back flow prevention devices. See the Mixing section of the product label for specific mixing and dilution instructions. Apply Invertid 2F in dedicated chemigation cycles only, not as a part of a regular irrigation cycle. Do not exceed 900 gallons of water per acre application volume using just enough water to thoroughly wet the plants but not the soil. Use minimum volume for flushout to avoid diluting or rinsing off product. Washout time should not exceed six (6) minutes. Set sprinkler heads in a spacing not exceeding 50 feet by 60 feet and adjusted to provide 100% overlap.

**Apply this product only through solid-set sprinkler systems designed specifically for chemigation.** 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 treat-



ed water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts. 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. 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.

- 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 (RPZ), back flow preventer or 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 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 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 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.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems not connected to a public water supply must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located in the irrigation pipeline to prevent water source contamination from back flow.
- Systems must use a positive displacement, metering 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.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

### **Rainfastness**

As soon as dry, Invertid 2F will resist wash-off better than most insecticides. However, efficacy or residual will be reduced with exposure to rainfall or overhead irrigation.

### **Spray Adjuvants**

The addition of agricultural adjuvants to sprays of Invertid 2F may improve initial spray deposits, redistribution and weatherability. Select adjuvants that are recommended and registered for your specific use pattern and follow their use directions. When an adjuvant is to be used with this product, Loveland Products recommends the use of a Chemical Producers and Distributors Association certified adjuvant. Always add adjuvants last in the mixing process.

### **Insecticide Resistance Management**

For resistance management, this product contains a Group 18 insecticide. Any insect population may contain individuals naturally resistant to this product and other Group 18 insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of this product or other Group 18 insecticides within a growing season, or among growing seasons, with different groups that control the same pests. Avoid application of more than the recommended number and consecutive sprays of this product or other insecticides in the same group in a 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 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 recommenda-



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tions for the specific site and pest problems in your area.

- For further information or to report suspected resistance contact Loveland Products at 888-574-2878 or at [lovelandproducts.com](http://lovelandproducts.com).

**Endangered Species**

The following applies to use of this product in Michigan (Allegan, Monroe, Montcalm, Muskegon, Newaygo, or Oceana counties) or Wisconsin (Adams, Burnett, Chippewa, Clark, Door, Eau Claire, Green Lake, Jackson, Juneau, Marquette, Monroe, Polk, Portage, Waupaca, Waushara, or Wood counties). It is a Federal offense to use any pesticide in a manner that results in the death of an endangered species. Use of this product may pose a hazard to endangered or threatened species. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. To obtain Bulletins, no more than six months before using this product, consult [www.epa.gov/espp](http://www.epa.gov/espp). You must use the Bulletin valid for the month in which you will apply the product.

**Rotational Crop Restrictions**

The following rotational crops may be planted at intervals defined below following the final application of Invertid 2F at specified rates for a registered use.

Crop	Re-Planting Interval
crops registered use	no restrictions
all other crops grown for food or feed	7 days

**Note:** When using Invertid 2F with other registered pesticides, always refer to rotational restrictions and precautions on the other product's label and comply with the most restrictive rotational guidelines.

**Uses**

**Bushberries (Subgroup 13-07B)<sup>1</sup>, Aronia Berry, Buffalo Currant, Chilean Guava, European Barberry, Highbush Cranberry, Honeysuckle, Jostaberry, Juneberry, Lingonberry, Native Currant, Salal, Sea Buckthorn, and Cultivars and/or Hybrids of Each (Not registered for use in New York)**

<sup>1</sup>Bushberries (subgroup 13-07B) including black currant, elderberry, gooseberry, highbush blueberry, huckleberry, lowbush blueberry, red currant.

**Ground Application:** Apply in a minimum of 30.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

Pests	Application Rate (fl oz/A)	Application Timing
cherry fruitworm cranberry fruitworm	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Apply at initiation of egg laying (approximately 400 Day Degrees (DD) base 50 °F) following biofix*. Make a second application at 100% petal fall (usually 7 to 14 days following the first application). An additional application (third) no sooner than 7 days following the second application may be required under high pressure or sustained moth flight.
European grapevine moth light brown apple moth oblique banded leafroller		<b>Spring (overwintering) generation:</b> Make one or two applications at bloom to petal fall to small larvae when threshold levels occur. <b>Summer generation:</b> Begin applications at peak moth flight (200 to 300 DD base 43°F) following biofix. An additional application (third) no sooner than 7 days following the second application may be required under high pressure or sustained moth flight.
Redbanded leafroller variegated leafroller		For control of other leafrollers, apply at early egg hatch for each generation. Make the first application before webbing and sheltering begins. Make a second application to ensure complete coverage of rapidly expanding fruits or foliage.
spanworm		Apply when first signs of feeding damage appear or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
green fruitworm		Apply when larvae are first detected in the clusters or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
armyworm cutworm	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply when first signs of feeding damage appear or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
gypsy moth	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	Apply to early instars (1st, 2nd, or 3rd) at first signs of infestation.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 48.0 fluid ounces of Invertid 2F (0.75 pound active ingredient) per acre per year.

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- Make no more than 3 applications per year.
- Do not apply more than 16.0 fluid ounces per acre per application.
- **Minimum Re-treatment Interval:** 7 days
- See Rotational Crop Restrictions.

\* **NOTE:** Biofix is defined as first sustained adult catch in pheromone traps, typically five moths in three traps within a 7-day period. Consult state extension specialists or other qualified authorities for specific information regarding number, placement and management of pheromone traps.

**Caneberries (Subgroup 13-07A)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Caneberries (subgroup 13-07A) including bababerry, bingleberry, blackberry, blackcap, black raspberry, black satin berry, boysenberry, caneberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, dirksen thornless berry, framboise, frambueso, Himalaya berry, himbeere, hullberry, keriberry, lavacaberry, loganberry, lowberry, lucretiaberry, mammoth blackberry, marionberry, mayberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangerberry, ravenberry, red raspberry, rossberry, Shawnee blackberry, thimbleberry, tulaeen, yellow raspberry, youngberry, cultivars, varieties, and/or hybrids of these.

**Ground Application:** Apply in a minimum of 30.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
cherry fruitworm cranberry fruitworm	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Apply at initiation of egg laying [approximately 400 Day Degrees (DD) base 50 °F] following biofix*. Make a second application at 100% petal fall (usually 7 to 14 days following the first application). An additional application (third) no sooner than 7 days following the second application may be required under high pressure or sustained moth flight.
light brown apple moth obliquebanded leafroller		<b>Spring (overwintering) generation:</b> Make one or two applications at bloom to petal fall to small larvae when threshold levels occur. <b>Summer generation:</b> Begin applications at peak moth flight (200 to 300 DD base 43 °F) following biofix. An additional application (third) no sooner than 7 days following the second application may be required under high pressure or sustained moth flight.
Redbanded leafroller variegated leafroller	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	For control of other leafrollers, apply at early egg hatch for each generation. Make the first application before webbing and sheltering begins. Make a second application to ensure complete coverage of rapidly expanding fruits or foliage.
spanworm		Apply when first signs of feeding damage appear or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
green fruitworm		Apply when larvae are first detected in the clusters or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
armyworm cutworm	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply when first signs of feeding damage appear or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
gypsy moth	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	Apply to early instars (1st, 2nd, or 3rd) at first signs of infestation.

**Restrictions**

- Do not apply more than 16.0 ounces per acre per application or more than a total of 48.0 fluid ounces of Invertid 2F (0.75 pound active ingredient) per acre per year or make more than 3 applications per year.
- **Preharvest Interval:** Do not apply within 3 days of harvest.
- **Minimum Re-treatment Interval:** 7 days
- See Rotational Crop Restrictions.

\* **NOTE:** Biofix is defined as first sustained adult catch in pheromone traps, typically five moths in three traps within a 7-day period. Consult state extension specialists or other qualified authorities for specific information regarding number, placement and management of pheromone traps.

**Cilantro Leaves, Brassica (Cole) Leafy Vegetables (Crop Group 5)<sup>1</sup>, Leafy Vegetables (Crop Group 4)<sup>2</sup>, Leaves of Root and Tuber Vegetables (Crop Group 2)<sup>3</sup>, and Turnip Greens (Not registered for use in New York)**

<sup>1</sup>Brassica (cole) leafy vegetables (crop group 5) including broccoli, broccoli raab, Brussels sprouts, cabbage, cauliflower, cavalo broccolo, Chinese broccoli, Chinese cabbage (bok choy, napa), Chinese mustard cabbage (gai choy), collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, rape greens.

<sup>2</sup>Leafy vegetables (except Brassica) (crop group 4) including amaranth, arugula, cardoon, celery, celtuce, chervil, Chinese celery, corn salad, dandelion, dock, edible-leaved chrysanthemum, endive (escarole), florence fennel, garden cress, garden purslane, garland chrysanthemum, lettuce (head, leaf), New Zealand spinach, orach, parsley, radicchio, rhubarb, spinach, Swiss chard, upland cress, vine spinach, winter purslane.

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<sup>3</sup>Leaves of root and tuber vegetables (crop group 2) including bitter cassava, black salsify, carrot, celeriac, chicory, dasheen, edible burdock, garden beet, parsnip, oriental radish, radish, rutabaga, sugarbeet, sweet cassava, sweet potato, tanager, true yam, turnip, and turnip-rooted chervil.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
beet armyworm cabbage looper cutworms (suppression only) fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm yellowstriped armyworm	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
beet armyworm cabbage looper cabbage webworm cross-striped cabbageworm cutworms (suppression only) fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm yellowstriped armyworm	8.0 to 10.0 (0.125 to 0.156 lb ai/A)	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.
Diamondback moth (suppression only)	12.0 to 16.0 (0.188 to 0.250 lb ai/A)	Infestations and crop damage are reduced when applied at initiation of egg laying.

**Restrictions**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- See Rotational Crop Restrictions.

**Citrus Fruits (Crop Group 10-10)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Citrus fruits (crop group 10-10) including Australian desert lime, Australian finger lime, Australian round lime, brown river finger lime, calamondin, citron, citrus hybrids, grapefruit, Japanese summer grapefruit, kumquat, lemon, lime, Mediterranean mandarin, mount white lime, New Guinea wild lime, pummelo, russell river lime, satsuma mandarin, sour orange, sweet lime, sweet orange, tachibana orange, Tahiti lime, tangelo, tangerine (Mandarin), tangor, trifoliolate orange, unqi fruit, cultivars, varieties and/or hybrids of these.

**Ground Application:** Apply a minimum of 50.0 gallons per acre by conventional ground equipment to trellised trees or trees 10 feet tall or less. For trees more than 10 feet tall, use a minimum of 100 gallons per acre. For low volume applications, apply a minimum of 20.0 gallons per acre by ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Optimum results are achieved when higher spray volumes are used. Calibrate equipment to the desired spray volume. When using a new application method or product for the first time, treat a small area before applying to larger areas.

**Resistance Management:** To reduce the potential for resistance development in target pest species, do not make more than 3 consecutive applications of Invertid 2F. If additional treatments are required after 2 consecutive applications of Invertid 2F, rotate to another class of effective insecticide of alternate modes of action for at least 2 applications and utilize Integrated Pest Management practices such as routine monitoring, treatment thresholds to time applications, and cultural and biological controls whenever possible. Consult your Loveland Products representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
citrus leafminer citrus peelminer cutworms leafrollers orange dog worm	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply at the first observation of the pests on the flushing leaves. Reapply no sooner than 14-day intervals.

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**Restrictions**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Make no more than 4 applications per year.

**Corn (Field, Sweet, Seed) (Not registered for use in New York)**

**Specific Use Directions-Field Corn:**

**Ground Application:** Apply in a minimum of 5.0 gallons per acre by conventional ground equipment to young crop or small plants. Higher carrier volumes may be required to provide thorough coverage to larger, more mature crop. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 5.0 gallons per acre. Use sufficient carrier volume to provide thorough, uniform coverage.

**Specific Use Directions-Sweet Corn:**

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre after initiation of tasseling. Calibrate equipment and spray volume to assure uniform coverage of infested parts of the crop.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
European corn borer southwestern corn borer sugarcane borer	4.0 to 16.0 (0.063 to 0.250 lb ai/A)	Apply at first sign of egg hatch or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Direct application at the whorl for early season (first generation) infestations. Apply as broadcast or multi-nozzle over the row application to mid- and late-season infestations.
true armyworm western bean cutworm		Apply at first sign of egg hatch (field corn), feeding damage (sweet corn), or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Under heavy infestations, continuous moth flights, or rapid crop growth and development, reapply at 5- to 10-day re-treatment interval.

**Restrictions**

- **Preharvest Interval-Field Corn:** Do not apply within 21 days of harvest.
- **Preharvest Interval-Sweet Corn:** Do not apply within 3 days of harvest for ears and/or green chop (forage) and within 21 days of harvest for dry fodder.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- See Rotational Crop Restrictions.
- Make no more than 4 applications per year.
- **Minimum Re-treatment Interval:** 5 days

**Cotton (Not registered for use in New York)**

**Ground Application:** Make applications by conventional ground sprayers which are calibrated to deliver a minimum of 5.0 gallons per acre.

**Aerial Application:** Apply in a minimum of 3.0 gallons per acre. Use a higher carrier volume or heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
beet armyworm cabbage looper cotton leafworm cotton leaf perforator fall armyworm <sup>1</sup> saltmarsh caterpillar southern armyworm soybean looper true armyworm yellowstriped armyworm	4.0 to 10.0 (0.063 to 0.16 lb ai/A)	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult (most fall armyworm). Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.

**Restrictions**

- **Preharvest Interval:** Do not apply within 14 days of harvest.

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- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per year.
- Make no more than 6 applications per year.

<sup>1</sup>Suppression only. Use a higher rate in the rate range and ensure thorough coverage. Tank mixing Invertid 2F with other products registered for fall armyworm control in cotton (e.g., pyrethroids, spinosad, or others) has been shown to improve control. Consult your Loveland Products representative, extension service specialist, certified crop advisor or state agricultural experiment station for any additional local use recommendations for your area.

**Cranberry (Not registered for use in New York)**

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

**Chemigation Application:** Invertid 2F may be applied through sprinkler irrigation systems to control listed pests. Use specified broadcast application rates. See Chemigation Application section.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
blackheaded fireworm gypsy moth sparganothis fruitworm spanworms spotted fireworm	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	<b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the flower bud development period depending upon infestation level. <b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch. Reapply 10 to 18 days later. A higher rate in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae. For control of light to moderate infestations, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. The product provides 10 to 18 days of protection depending upon application rate and how rapidly fruit is expanding.

**Restrictions**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

**Cucurbit Vegetables (Crop Group 9)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Cucurbit vegetables (crop group 9) including balsam apple, balsam pear, bitter melon, chayote (fruit), Chinese cucumber, Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, edible gourd (including Chinese okra, cucuzza, hechima, hyotan), gherkin, muskmelon (including cantaloupe, casaba, crenshaw melon, golden pershaw melon, honey balls, honeydew melon, mango melon, Persian melon, pineapple melon, santa claus melon, snake melon, true cantaloupe), pumpkin, summer squash (including crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), winter squash (including acorn squash, butternut squash, calabaza, hubbard squash, spaghetti squash), watermelon.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
beet armyworm cabbage looper melon worm pickle worm rind worm southern armyworm true armyworm yellowstriped armyworm	4.0 to 10.0 (0.063 to 0.156 lb ai/A)	Apply at first sign of infestation, targeting eggs and small larvae, or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.

**Restrictions**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not make more than 4 applications per acre per year.
- **Minimum Re-treatment Interval:** 7 days
- See Rotational Crop Restrictions.



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**Dates (Not registered for use in New York)**

**Ground Application:** Apply a minimum of 100 gallons per acre. Equipment and spray volume should be calibrated to assure uniform coverage of infested parts of the crop.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
carob moth	10.0 to 20.0 (0.156 to 0.313 lb ai/A)	For control of light to moderate infestations, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. Once applied, the product provides 10 to 18 days of protection depending upon application rate and how rapidly fruit is expanding. Consult local spray timing advisories or follow biofix dates based on pheromone trap catches to time sprays appropriately. For continuous moth flight and egg laying, use the highest labeled rate. Maintain coverage on the fruit surface with 10- to 18-day re-treatment intervals. Alternate or intersperse with other insecticides with different modes of action targeted for the same pest so long as the re-treatment interval does not exceed the period of effectiveness of the products being alternated and Invertid 2F is applied before larvae penetrate the fruit.

**Restrictions**

- Do not apply more than 20.0 fluid ounces per acre per application or a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not make more than 3 applications per acre per year.
- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Re-treatment Interval:** 10 days

**Fruiting Vegetables (Crop Group 8-10)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Fruiting vegetables (crop group 8-10) including African eggplant, bell pepper, bush tomato, cocona, currant tomato, eggplant, garden huckleberry, goji berry, groundcherry, hot pepper, martynia, naranjilla, nonbell pepper, okra, pea eggplant, pepino, pimento pepper, roselle, scarlet eggplant, sunberry, sweet pepper, tomatillo, tomato, tree tomato, cultivars, varieties and/or hybrids of these.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
beet armyworm cabbage looper European corn borer fall armyworm southern armyworm tomato hornworm true armyworm yellowstriped armyworm western yellowstriped armyworm	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
tomato fruitworm (suppression only)	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 7- to 14-day re-treatment interval is required to protect new growth until moth flights and/or larval infestations subside.
tomato pinworm (suppression only)	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. May provide partial control when infestations reach high levels.
tomato pinworm (suppression only)	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Leafmining and infestations of leafmining phase are reduced when applied at initiation of egg laying.

**Restrictions**

- Do not apply more than 16.0 fluid ounces per acre per application or a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Make no more than 4 applications per year.
- **Minimum Re-treatment Interval:** 7 days
- See Rotational Crop Restrictions.

**Globe Artichoke (Not registered for use in New York)**



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**Ground Application:** Apply in a minimum of 75.0 gallons per acre of water using calibrated ground application equipment that provides thorough coverage.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre of water. Use higher water volumes for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
armyworm plume moth	4.0 to 16.0 (0.063 to 0.250 lb ai/A)	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under conditions of heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply Invertid 2F or another effective product at a minimum application interval of 7 days to protect new growth until moth flights subside.

**Restrictions**

- **Preharvest Interval:** Do not apply within 4 days of harvest.
- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Make no more than 4 applications per year.

**Grape (Not registered for use in New York)**

**Ground Application:** Apply in a minimum of 40.0 gallons per acre by conventional airblast or over the row sprayer. If using other type of sprayer, apply in sufficient carrier volume to ensure thorough, uniform cover of the crop. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 20.0 gallons per acre. This method should not be used if the density of the foliage prohibits thorough, uniform coverage of the entire vine canopy.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
grape berry moth European grapevine moth grape leaf folder light brown apple moth omnivorous leafroller obliquebanded leafroller orange tortrix redbanded leafroller	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	For internal feeding lepidoptera larvae, apply at initiation of egg hatch for each generation. Reapply within 10 to 18 days to ensure complete coverage of rapidly expanding fruits or foliage. <b>Spring generation:</b> Apply at first sign of larval infestation or to small larvae when threshold levels occur. <b>Summer generation:</b> For each generation, apply at first egg hatch. Reapply at 10- to 14-day intervals under high pressure or sustained moth flight.

**Restrictions**

- **Preharvest Interval:** Do not apply within 30 days of harvest.
- Make no more than 5 applications per year.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 48.0 fluid ounces of Invertid 2F (0.75 pound active ingredient) per acre per year.

**Grass Forage, Fodder, and Hay (Crop Group 17) (Not registered for use in New York)**

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

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**Aerial Application:** Apply in a minimum of 5.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
armyworms	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	Begin applications when first signs of feeding damage appear or when threshold levels of feeding damage occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is difficult.

**Restrictions**

- **Preharvest Interval:** Do not apply to hay within 7 days of harvest; there is no pre-harvest interval for forage. Livestock can enter and graze on treated area immediately after application.
- Do not apply more than a total of 32.0 fluid ounces of Invertid 2F (0.5 pound active ingredient) per acre per year.
- Do not make more than 1 application per cutting.
- See Rotational Crop Restrictions.

**Green Onion (Subgroup 3-07B)<sup>1</sup>, except chive (fresh leaves) (Not registered for use in New York)**

<sup>1</sup>Green onion (subgroup 3-07B) including beltville bunching onion, Chinese chive (fresh leaves), elegans hosta, fresh onion, fritillaria leaves, green onion, kurrat, lady's leek, leek, macrostem onion, shallot (fresh leaves), tree onion (tops), wild leek.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

**Green Onion (Subgroup 3-07B)<sup>1</sup>, except chive (fresh leaves) (Not registered for use in New York) cont'd**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
lepidopteran larvae including: armyworms European corn borer loopers	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
	8.0 to 12.0 (0.125 to 0.188 lb ai/A)	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, reapplication can be made at a minimum 10-day re-treatment interval to protect new growth until moth flights and/or hits subside.

**Restrictions**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 12.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not make more than 6 applications of Invertid 2F per acre per year.
- See Rotational Crop Restrictions.

**Herbs (Fresh and Dried) (Subgroup 19A)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Herbs (fresh and dried) (subgroup 19A) including angelica, annual marjoram, balm, basil, borage, burnet, camomile, catnip, chervil (dried), chive, coriander (leaf), costmary, culantro (leaf), curry (leaf), dillweed, horehound, hyssop, lavender, lemongrass, lovage (leaf), marigold, marjoram, nasturtium, oregano, parsley (dried), pennyroyal, pot marjoram, rosemary, rue, sage, summer savory, sweet bay, sweet marjoram, tansy, tarragon, thyme, wild marjoram, wintergreen, winter savory, woodruff, wormwood.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

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**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
beet armyworm cabbage looper cutworms (suppression only) fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm yellowstriped armyworm	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
beet armyworm cabbage looper cabbage webworm cross-striped cabbageworm cutworms (suppression only) fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm yellowstriped armyworm	8.0 to 10.0 (0.125 to 0.156 lb ai/A)	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.
diamondback moth (suppression only)	12.0 to 16.0 (0.188 to 0.250 lb ai/A)	Infestations and crop damage are reduced when applied at initiation of egg laying.

**Restrictions**

- Do not apply more than 16.0 fluid ounces per acre per application or a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- **Preharvest Interval:** Do not apply within 1 day of harvest.
- **Minimum Re-treatment Interval:** 10 days
- See Rotational Crop Restrictions.

**Legume Vegetables (Succulent or Dried) (Crop Group 6)<sup>1</sup> and Foliage of Legume Vegetables (Except Soybean) (Subgroup 7A)<sup>2</sup> (Not registered for use in New York)**

<sup>1</sup>Legume vegetables (succulent or dried) (crop group 6) including asparagus bean, blackeyed pea, *Cajanus* spp. (pigeon pea), Chinese longbean, *Cicer arietinum* (chick peas, garbanzo beans), cowpea, green lima bean, jackbean, *Lens* spp. (lentils), *Lupinus* spp. (grain lupine, sweet lupine, white lupine, white sweet lupine), moth bean, *Phaseolus* spp. (kidney beans, lima beans, mung beans, navy beans, pinto beans, snap beans, waxbeans), *Pisum* spp. (dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea), runner bean, snap bean, snow pea, soybean (immature seed), southern pea, succulent broad bean, sugar snap pea, sword bean, *Vicia faba* (broad beans, fava beans); *Vigna* spp. (asparagus beans, blackeyed pea, cowpeas), wax bean, yardlong bean.

<sup>2</sup>Foliage of legume vegetables (except soybean) (subgroup 7A) including any cultivar of bean and field pea (except soybean).

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** To reduce the potential for resistance development in target pest species, do not make more than two consecutive applications of Invertid 2F. If additional treatments are required after two consecutive applications of Invertid 2F, rotate to another class of effective insecticides for at least one application and utilize Integrated Pest Management practices such as routine monitoring, treatment thresholds to time applications, and cultural and biological controls whenever possible. Consult your Loveland Products representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
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alfalfa looper beet armyworm cabbage looper European corn borer fall armyworm southern armyworm tomato hornworm true armyworm yellowstriped armyworm western yellowstriped armyworm	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
corn earworm ( <i>Heliocoverpa/Heliothis</i> ) (suppression only)	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 7- to 14-day re-treatment interval is required to protect new growth until moth flights and/or larval infestations subside.
tomato pinworm (suppression only)	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. May provide partial control when infestations reach high levels.
		Leafmining and infestations of leafmining phase are reduced when applied at initiation of egg laying.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not make more than 4 applications per acre per year.
- **Minimum Re-treatment Interval:** 7 days
- Do not use adjuvants in the tank mix when applying this product to dry peas and beans.
- Do not apply to dry peas by aerial ULV.
- See Rotational Crop Restrictions.

**Low Growing Berry (Except Cranberry) (Crop Group 13-07G)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Low growing berry (except cranberry) (crop group 13-07G) including bearberry, bilberry, cloudberry, lingonberry, lowbush blueberry, muntries, partridgeberry, strawberry, cultivars, varieties, and/or hybrids of these.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

**Low Growing Berry (Except Cranberry) (Crop Group 13-07G)<sup>1</sup> (Not registered for use in New York) cont'd**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
armyworms corn earworm (suppression only) cutworms (suppression only)	6.0 to 12.0 (0.094 to 0.188 lb ai/A)	For early season applications to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.

**Restrictions**

- Do not apply more than 12.0 fluid ounces per acre per application or a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- **Preharvest Interval:** Do not apply within 3 days of harvest.
- **Minimum Re-treatment Interval:** 10 days
- See Rotational Crop Restrictions.

**Nongrass Forage, Fodder, Straw and Hay (Crop Group 18)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Nongrass forage, fodder, straw and hay (crop group 18) including alfalfa, clover, crown vetch, kudzu, lespedeza, lupin, milk vetch, sainfoin, trefoil, velvet bean, vetch.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

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**Aerial Application:** Apply in a minimum of 5.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
alfalfa caterpillar alfalfa looper armyworms, including beet fall southern striped true western yellowstriped webworms	4.0 to 10.0 (0.063 to 0.156 lb ai/A)	Begin applications when first signs of feeding damage appear or when threshold levels of feeding damage occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of hay harvest; there is no preharvest interval for forage.
- Do not apply more than a total of 32.0 fluid ounces of Invertid 2F (0.5 pound active ingredient) per acre per year.
- Do not make more than 1 application per cutting.
- Livestock can enter and graze on treated area immediately after application.
- See Rotational Crop Restrictions.

**Ornamentals (Not registered for use in New York)**

Invertid 2F controls the listed pests on trees; shrubs; foliage plants and flowers grown in commercial nurseries and greenhouses, in Christmas tree farms, in outdoor landscape areas such as parks, recreational areas, institutional grounds, residential property, etc., and in interior plantscapes. When applied as directed, Invertid 2F has shown excellent selectivity on a wide range of ornamental plants. It is impossible, however, to evaluate this product on all ornamentals or under all possible growing conditions. The user should exercise reasonable judgment and caution with this product; until familiar with results under user growing conditions, treat a limited number of plants.

**Ground Application:** Apply in a minimum of 50.0 gallons per acre by conventional ground equipment or hydraulic sprayers. Apply in a minimum of 10.0 gallons per acre by mist blowers or air blast sprayers. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Hand Sprayers:** Apply in enough water to thoroughly spray plant foliage until runoff.

<b>Invertid 2F (fl oz/A)</b>	<b>Active Ingredient (lb ai/A)</b>	<b>Equivalent Invertid 2F in 1.0 Gallon of Water (Teaspoon)</b>
4.0	0.063	0.25
8.0	0.125	0.5
16.0	0.250	1.0

**Aerial Application:** Apply in a minimum of 20.0 gallons per acre. Invertid 2F can be aerially applied when conditions warrant. However, this method should not be used if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy. Do not make aerial applications in immediate proximity of residential, commercial, government, institutional or other structures where people may be present including homes, apartments, offices, churches, schools, and businesses. Aerial applicators should evaluate conditions existing at the time of application and make appropriate adjustments to reduce drift. In urban areas, however, use is limited to directed ground or chemical applications.

**Chemigation Application:** Invertid 2F may be applied through sprinkler irrigation systems to control listed pests. Use specified broadcast application rates. See Chemigation Application section.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
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armyworm bagworms beet armyworm browntail moth codling moth cutworms eastern tent caterpillar elm spanworm eucalyptus caterpillar European grapevine moth fall armyworm fall cankerworm fall webworm Florida fern caterpillar forest tent caterpillar gypsy moth hemlock looper jack pine budworm leafrollers light brown apple moth pine tip moth processionary caterpillar puss caterpillar spruce budworm tussock moth western spruce budworm western tent caterpillar yellowneck caterpillar zimmerman pine moth	4.0 to 16.0 (0.063 to 0.250 lb ai/A)	Begin applications when larvae are observed or at the first sign of feeding damage. Repeat applications on a 10-to 14-day interval or as necessary based upon pest reinfestation. Uniform coverage of the foliage is essential to provide maximum protection from defoliation and reduction of egg mass deposition.
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**Restrictions**

- Do not apply more than a total of 32.0 fluid ounces of Invertid 2F (0.5 pound active ingredient) per acre per year.
- Do not make more than 4 applications of Invertid 2F per acre per year.
- Allow at least six hours between application completion and onset of precipitation to assure thorough spray drying.

**Peanut (Not registered for use in New York)**

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 5.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
armyworms cabbage looper green clover worm saltmarsh caterpillar soybean loopers velvet bean caterpillar	6.0 to 10.0 (0.094 to 0.156 lb ai/A)	Apply when first signs of feeding damage appear or when threshold levels of feeding damage occur.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 30.0 fluid ounces of Invertid 2F (0.47 pound active ingredient) per acre per year.
- Make no more than 3 applications per acre per year.
- **Minimum Re-treatment Interval:** 7 days
- See Rotational Crop Restrictions.



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**Pineapple (For Use only in Hawaii)**

**Application Rate:** Apply as a foliar spray at the rate indicated to control target pests. Heavy infestations may require repeat applications, but follow resistance management guidelines.

**Application volume:** Apply in spray volume which will provide thorough crop coverage.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
suppression of lepidopterous larvae such as: armyworms banana moth <i>Batrachedra commosae</i> <i>Elaphria nucicolora</i> fruit borer caterpillar ( <i>Thecla basilides</i> ; <i>Strymon basilides</i> ) pineapple caterpillar pink cornworm sugarcane bud moth	4.0 to 7.0 (0.063 to 0.109 lb ai/A)	For determining when to treat, scout with enough regularity to monitor the population size of each of the labeled pests. Treat when pests appear, targeting eggs at hatch or small larvae. Consult your Loveland Products representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Restrictions**

- Do not apply more than a total of 28.0 fluid ounces of Invertid 2F (0.44 pound active ingredient of methoxyfenozide) per acre per year
- Do not make more than four applications per year.
- **Minimum Re-treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval:** Do not apply within 3 days of harvest.

**Pome Fruits (Crop Group 11-10)<sup>1</sup>**

<sup>1</sup>Pome fruit (crop group 11-10) including apple, Asian pear, azarole, crabapple, loquat, mayhaw, medlar, pear, quince, tejocote, cultivars, varieties, and/or hybrids of these.

For best protection, begin applications before egg hatch of each generation. For pests that penetrate fruit apply Invertid 2F before the larval hatch and penetrate the fruit. Invertid 2F may provide 10 to 18 days of protection depending upon application rate and how rapidly fruit and/or leaves are expanding. Most effective crop protection results from an application of Invertid 2F made at the initiation of egg hatch. For heavy infestations, continuous moth flight and egg laying, or extended egg hatch, use the maximum specified rates. Maintain coverage on the fruit surface with 10- to 18-day re-treatment intervals.

Invertid 2F may also be used in a program approach alternated or interspersed with other insecticides. Make sure the re-treatment interval does not exceed the period of effectiveness of the alternate products and Invertid 2F.

Consult local spray timing advisories or follow biofix dates based upon pheromone trap catches to time sprays appropriately.

**Ground Application:** Apply Invertid 2F by conventional ground sprayers which are calibrated to deliver a minimum of 50.0 gallons per acre to trellised trees or trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gallons per acre.

**Aerial Application:** Aerial application is allowed only for the last two applications prior to harvest. Apply Invertid 2F in a minimum of 20.0 gallons per acre. Invertid 2F can be applied by aerial applications when conditions warrant. However, this method should not be used if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
codling moth (suppression only) For use against low to moderate infestations in conjunction with alternate control measures such as in established mating disruption blocks.	16.0 (0.250 lb ai/A)	For each generation, apply at the initiation of egg lay (usually occurs at 100 to 200 DD, base 50°F, following biofix). Reapply 10 to 18 days later.
lesser appleworm oriental fruit moth	12.0 to 16.0 (0.188 to 0.250 lb ai/A)	For each generation, apply at the initiation of egg lay (usually occurs at 100 to 200 DD, base 50°F, following biofix). Reapply 10 to 18 days later.
Obliquebanded leafroller pandemis leafroller	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	<b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the pink to petal fall period depending upon infestation level. <b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch (usually 200 to 400 DD following biofix). Reapply 10 to 18 days later (usually 500 to 700 DD).

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**Pome Fruits (Crop Group 11-10) cont'd**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
eyespot bud moth fruittree leafroller light brown apple moth redbanded leafroller variegated leafroller	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	For control of surface or foliar feeding leafroller larvae, apply when larvae are feeding.
tufted apple bud moth	6.0 to 10.0 (0.094 to 0.156 lb ai/A)	For each generation, apply at 10 to 30% egg hatch.
spotted tentiform leafminer western tentiform leafminer	8.0 to 12.0 (0.125 to 0.188 lb ai/A)	<b>First generation:</b> Apply at pink to petal fall. <b>Second, third generation:</b> Apply at early egg hatch for each generation.
lacanobia fruitworm	12.0 (0.188 lb ai/A)	Apply at egg hatch or at the first sign of larval infestation. Reapply within 10 to 14 days.

**Restrictions**

- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Aerial application is allowed **only** for the last two applications prior to harvest.

**Pomegranate (Not registered for use in New York)**

**Ground Application:** Apply a minimum of 50.0 gallons per acre by conventional ground equipment to trellised trees or trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gallons per acre. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 20.0 gallons per acre. This method should not be used if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
European grapevine moth filbert worm light brown apple moth navel orangeworm obliquebanded leafroller omnivorous leafroller	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch. The higher rates in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae.
redhumped caterpillar	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10- to 14- days to ensure complete coverage of rapidly expanding fruits or foliage.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

**Popcorn (Not registered for use in New York)**

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Apply in a minimum of 20.0 gallons per acre after initiation of tasseling. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

**Resistance Management:** To reduce the potential for resistance development in target pest species, do not make more than two consecutive applications of Invertid 2F. If additional treatments are required after two consecutive applications of Invertid 2F, rotate to another class of effective insecticides for at least one application and utilize Integrated Pest Management practices such as routine monitoring, treatment thresholds to time applications, and cultural and biological controls whenever possible. Consult your Loveland Products representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

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**Popcorn cont'd**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
European corn borer southwestern corn borer	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	Apply at first sign of egg hatch or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Direct application at the whorl for early season (first generation) infestations. Apply as broadcast or multinozzle over the row application to mid- and late-season infestations.
true armyworm western bean cutworm		Apply at first sign of egg hatch (field corn), feeding damage (sweet corn), or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Under heavy infestations, continuous moth flights, or rapid crop growth and development, reapply at 5- to 10-day re-treatment interval.

**Restrictions**

- **Preharvest Interval:** Do not apply within 21 days of harvest of grain and stover. There is no preharvest interval for popcorn forage.
- Do not apply more than 8.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not apply to popcorn by aerial ULV.
- See Rotational Crop Restrictions below.

**Root Vegetables (Subgroups 1A, 1B)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Root vegetables (subgroups 1A, 1B) including black salsify, carrot, celeriac, chicory, edible burdock, garden beet, ginseng, horseradish, parsnip, oriental radish, radish, rutabaga, salsify, skirret, Spanish salsify, sugarbeet, turnip, turnip-rooted chervil, and turnip-rooted parsley.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
armyworms cabbageworms cutworm (suppression only) loopers saltmarsh caterpillar webworms	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is difficult. Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply to protect new growth until moth flights and/or hits subside.

**Restrictions**

- **Preharvest Interval:** Do not apply within 1 day of harvest for all root vegetables except sugar beet. Do not apply within 7 days of sugarbeet harvest.
- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year for all crops except radish.
- Do not apply more than a total of 32.0 fluid ounces of Invertid 2F (0.5 pound active ingredient) per acre per year for radish.
- **Minimum Re-treatment Interval:** 14 days
- See Rotational Crop Restrictions.

**Small Fruit Vine Climbing (Except Fuzzy Kiwifruit and Grape) (Crop Group 13-07F)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Small fruit vine climbing (except fuzzy kiwifruit and grape) (crop group 13-07F) including amur river grape, gooseberry, hardy kiwifruit, maypop, schisandra berry, cultivars, varieties, and/or hybrids of these.

**Ground Application:** Apply in a minimum of 40.0 gallons per acre by conventional airblast or over the row sprayer. If using other type of sprayer, apply in sufficient carrier volume to ensure thorough, uniform cover of the crop. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 20.0 gallons per acre. This method should not be used if the density of the foliage prohibits thorough, uniform coverage of the entire vine canopy.

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**Small Fruit Vine Climbing (Except Fuzzy Kiwifruit and Grape) (Crop Group 13-07F) cont'd**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
grape berry moth	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	For internal feeding lepidoptera larvae, apply at initiation of egg hatch for each generation. Reapply within 10 to 18 days to ensure complete coverage of rapidly expanding fruits or foliage.
grape leaf folder light brown apple moth omnivorous leafroller obliquebanded leafroller orange tortrix redbanded leafroller		<b>Spring generation:</b> Apply at first sign of larval infestation or to small larvae when threshold levels occur. <b>Summer generation:</b> For each generation, apply at first egg hatch. Reapply at 10- to 14-day intervals under high pressure or sustained moth flight.

**Restrictions**

- Do not apply more than 16.0 fluid ounces per acre per application or a total of 48.0 fluid ounces of Invertid 2F (0.75 pound active ingredient) per acre per year.
- **Preharvest Interval:** Do not apply within 30 days of harvest.

**Sorghum (Grain and Sweet) (Not registered for use in New York)**

**Ground Application:** Apply in a minimum of 15.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
southwestern corn borer sugarcane borer	4.0 to 12.0 (0.063 to 0.188 lb ai/A)	Apply at first sign of egg hatch or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Apply as broadcast or multinozzle over the row application to mid- and late-season infestations.
beet armyworm fall armyworm		Apply at first sign of egg hatch, feeding damage, or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Under heavy infestations, continuous moth flights, or rapid crop growth and development, reapply at 10-day re-treatment intervals.

**Restrictions**

- Do not apply more than 12.0 fluid ounces per acre per application or 48.0 fluid ounces of Invertid 2F (0.75 pound active ingredient) per acre per year.
- **Preharvest Interval:** Do not apply within 21 days of grain or stover harvest, or within 3 days of forage or sweet sorghum stalk harvest.
- See Rotational Crop Restrictions.

**Soybean (Not registered for use in New York)**

**Ground Application:** Apply in a minimum spray volume of 10.0 gallons per acre using calibrated ground application equipment that provides thorough coverage.

**Aerial Application:** Apply in a minimum spray volume of 5.0 gallons per acre in equipment that has been properly patterned and calibrated for environmental conditions at the site. Use higher water volumes for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
armyworms green clover worm saltmarsh caterpillar soybean loopers velvet bean caterpillar	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	Begin applications when first signs of feeding damage appear or when threshold levels of feeding damage occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is difficult.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest of hay and forage or within 14 days of harvest of seed.
- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not make more than 4 applications per year.
- **Re-Planting Interval:** A 7-day re-planting interval is required for residues of methoxyfenozide.

**Spearmint and Peppermint (Not registered for use in New York)**

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment to young crop or small plants. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

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***Spearmint and Peppermint cont'd***

**Aerial Application:** Apply in a minimum of 5.0 gallons per acre. Calibrate aircraft to assure uniform coverage of the target crop.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
armyworms cutworms loopers	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Scout crops on a regular basis and treat as soon as economic thresholds have been met. Target small larvae and egg masses when possible. Use a higher rate in the rate range for high infestations and when extended residual is needed. Reapply at 14- to 21-day intervals when there are continuing infestations.

**Restrictions**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

**Stone Fruits (Crop Group 12-12)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Stone fruits (crop group 12-12) including American plum, apricot, beach plum, black cherry, Canada plum, capulin, cherry plum, cherry (sweet, sour), cherry (tart) chickasaw plum, Chinese Jujube, Damson plum, Japanese apricot, Japanese plum, Klamath plum, Nanking cherry, nectarine, peach, plum, plumcot, prune plum, sloe, cultivars, varieties, and/or hybrids of these.

**Ground Application:** Apply in a minimum of 50.0 gallons per acre by conventional ground equipment to trellised trees or trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gallons per acre. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 20.0 gallons per acre. This method should not be used if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.

**Apricots, Nectarines, Peaches, Plums, Prunes and Their Hybrids**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
codling moth (suppression only) oriental fruit moth	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	For control of light to moderate infestations, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. The product provides 10 to 18 days of protection depending upon application rate and how rapidly fruit is expanding. Consult local spray timing advisories or follow biofix dates based upon pheromone trap catches to time sprays appropriately. For continuous moth flight and egg laying, use the highest labeled rate. Maintain coverage on the fruit surface with 10- to 18-day re-treatment intervals. Alternate or intersperse with other insecticides targeted at the same pest so long as the re-treatment interval does not exceed the period of effectiveness of the products being alternated and Invertid 2F is applied before larvae penetrate the fruit.
peach twig borer	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	For each generation, apply at initiation of egg hatch before larvae enter the fruit. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage, or under conditions of high infestation or sustained moth flight.
Obliquebanded leafroller pandemis leafroller		<b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the pink to petal fall period depending upon infestation level. <b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch (usually 200 to 400 DD following biofix). Reapply 10 to 18 days later (usually 500 to 700 DD). A higher rate in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae.

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**Apricots, Nectarines, Peaches, Plums, Prunes and Their Hybrids cont'd**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
European grapevine moth fruittree leafroller light brown apple moth omnivorous leafroller redbanded leafroller threelined leafroller tufted apple budmoth variegated leafroller	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	For control of surface or foliar feeding leafroller larvae, apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch. For heavy infestations, continuous moth flights, or extended egg hatch, use maximum specified rates. Maintain coverage with 10- to 18-day re-treatment intervals.
cherry fruitworm green fruitworm lesser appleworm	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.
Redhumped caterpillar	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

**Cherries (Sweet and Sour)**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
Oblique banded leafroller pandemis leafroller	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	<b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the pink to petal fall period depending upon infestation level. <b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch (usually 200 to 400 DD following bio-fix). Reapply 10 to 18 days later (usually 500 to 700 DD). A higher rate in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae.
eyespotted bud moth fruittree leafroller light brown apple moth omnivorous leafroller redbanded leafroller threelined leafroller tufted apple budmoth variegated leafroller		For control of surface or foliar feeding leafroller larvae, apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch. For heavy infestations, continuous moth flights, or extended egg hatch, use maximum specified rates. Maintain coverage with 10- to 18-day re-treatment intervals.
cherry fruitworm	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.
Redhumped caterpillar	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 58.0 fluid ounces of Invertid 2F (0.9 pound active ingredient) per acre per year.

**Tree Nuts (Crop Group 14-12)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Tree nuts (crop group 14-12) including African nut-tree, almond, beech nut, Brazil nut, Brazilian pine, bunya, bur oak, butternut, Cajou nut, candlenut, cashew, chestnut, chinquapin, coconut, coquito nut, dika nut, filbert (hazelnut), ginkgo, Guiana chestnut, heartnut, hickory nut, Japanese horse chestnut, macadamia (bush) nut, mongongo nut, monkey-pot, monkey puzzle nut, Okari nut, Pachira nut, peach palm nut, pecan, pequi, Pili nut, pine nut, pistachio, Sapucaia nut, tropical almond, walnut (black and English), yellowhorn and cultivars, and varieties and/or hybrids of these.

**Ground Application:** Apply in a minimum of 50.0 gallons per acre by conventional ground equipment to trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gallons per acre. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre. This method may result in reduced efficacy if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.



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**Almonds**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
peach twig borer	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	<b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the bloom to petal fall period depending upon infestation level. <b>Summer generation:</b> Begin applications at peak moth flight (400 to 450 DD, base 50 °F, following biofix). Reapply at 14- to 18-day intervals under high pressure or sustained moth flight. A higher rate in the rate range may be required for extended residual effectiveness, high pest infestation levels, larger trees, or heavy dense foliage.
navel orangeworm	12.0 to 24.0 (0.188 to 0.38 lb ai/A)	Make first application at the initiation of hull split (2 to 5% hull split). Reapply 14 days later. Under heavy infestation, reapply a third time 14 days later.

**Restrictions**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Make no more than 4 applications per year.
- Do not apply more than 24.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

**Hazelnuts**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
filbertworm	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply at initiation of egg hatch. Reapply at 14- to 21-day intervals under high pressure or sustained moth flight.
Obliquebanded leafroller		<b>Spring (overwintering) generation:</b> Make 1 to 2 applications depending upon infestation level. <b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch (200 to 400 DD following biofix). Reapply 14 to 18 days later (usually 500 to 700 DD).
European grapevine moth filbert leafroller light brown apple moth omnivorous leaf-tier		For control of surface of foliar feeding leafroller larvae, apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch.

**Restrictions**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Make no more than 4 applications per year.
- Do not apply more than 16.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

**Pecans**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
pecan nut casebearer	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	For each generation, apply at initiation of egg hatch (first generation is approximately 8 to 15 days following biofix). 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. A higher rate in the rate range may be required for extended residual effectiveness, higher pest infestations, low crop load, larger trees, or heavy dense foliage.
hickory shuckworm	4.0 to 8.0 (0.063 to 0.125 lb ai/A)	For early- to mid-season infestations reaching threshold levels as defined by state extension specialists or other qualified authorities, make applications at the initiation of egg hatch. For late-season infestations, initiate applications at half-shell hardening. Reapply at 14-day intervals to shuck split or while nuts are susceptible to heavy infestations.
fall webworm walnut caterpillar		Apply at the first sign of larval infestation.

**Restrictions**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Make no more than 4 applications per year.
- **Minimum Re-treatment Interval:** 14 days.
- Do not apply more than 8.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

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**Walnuts**

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
codling moth (suppression only)	12.0 to 24.0 (0.188 to 0.375 lb ai/A)	For each generation, apply at initiation of egg hatch (100 to 200 DD following biofox). Control of first generation may require second application (14- to 18-day re-treatment interval) to ensure complete coverage of rapidly expanding nuts and foliage. After nut growth and foliage expansion slows, a 14- to 21-day re-treatment interval may be required to provide control of extended moth flight. A higher rate within the rate range may be required for extended residual effectiveness, high pest infestation levels, larger trees, or heavy dense foliage.
navel orangeworm	8.0 to 16.0 (0.125 to 0.250 lb ai/A)	Apply at initiation of egg hatch.
fall webworm		Apply at first sign of larval infestation.
redhumped caterpillar		

**Restrictions**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Make no more than 4 applications per year.
- **Minimum Re-treatment Interval:** 14 days.
- Do not apply more than 24.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

**Tree Nut Crops in Crop Group 14-12 not Specifically Listed Above**

**Restrictions** for control of lepidoptera larvae for which Invertid 2F is registered:

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Make no more than 4 applications per year.
- Apply no more than 24.0 fluid ounces of this product (0.38 pound active ingredient) per acre per single application.
- Do not apply more than 24.0 fluid ounces per acre per application or more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.

Performance of Invertid 2F against pests not listed on this label cannot be warranted nor can crop tolerance in all types and varieties of tree nuts be assured. If unsure, the user is advised to treat a few trees to observe for symptoms before treating large blocks of trees. Generally, optimum performance against lepidoptera pests (worms) is achieved when Invertid 2F is applied at the initiation of egg hatch. Reapplication intervals of 14 to 20 days may be required if the plant part(s) to be protected from insect damage is rapidly growing or expanding or if pest infestations are heavy or extended.

**Tropical Tree Fruits<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Tropical tree fruits including acerola, atemoya, avocado, biriba, black sapote, canistel, cherimoya, custard apple, feijoa, guava, ilama, jaboticaba, longan, lychee, mamey sapote, mango, papaya, passionfruit, pulasan, rambutan, sapodilla, soursop, Spanish lime, star apple, starfruit, sugar apple, wax jambu.

**Ground Application:** Apply in a minimum of 50.0 gallons per acre by conventional ground equipment to trees 10 feet tall or less. For trees greater than 10 feet tall, apply in a minimum of 100 gallons per acre by conventional group equipment. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

<b>Pests</b>	<b>Application Rate (fl oz/A)</b>	<b>Application Timing</b>
lepidopteran larvae including European grapevine moth guava moth ( <i>Argyresthia</i> ) leafrollers light brown apple moth loopers orange tortrix spanworms webbing worms western tussock moth	10.0 to 16.0 (0.156 to 0.250 lb ai/A)	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply at a 6- to 10-day re-treatment interval to protect new growth until moth flights and/or hits subside.

**Tropical Tree Fruits<sup>1</sup> (Not registered for use in New York) cont'd**

**Restrictions**

- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not make more than 5 applications per year.
- **Acerola, Feijoa, Guava, Jaboticaba, Passionfruit, Starfruit, Wax Jambu**  
**Preharvest Interval:** Do not apply within 3 days of harvest.  
**Minimum Re-treatment Interval:** 6 days
- **Atemoya, Avocado, Biriba, Cherimoya, Custard Apple, Ilima, Soursop, Sugar Apple**  
**Preharvest Interval:** Do not apply within 2 days of harvest.  
**Minimum Re-treatment Interval:** 6 days
- **Black Sapote, Canistel, Mamey Sapote, Mango, Papaya, Sapodilla, Star Apple**  
**Preharvest Interval:** Do not apply within 3 days of harvest.  
**Minimum Re-treatment Interval:** 10 days
- **Longan, Lychee, Pulasan, Rambutan, Spanish Lime**  
**Preharvest Interval:** Do not apply within 14 days of harvest.  
**Minimum Re-treatment Interval:** 10 days

**Tuberous and Corm Vegetables (Except Potato) (Subgroup 1D)<sup>1</sup> (Not registered for use in New York)**

<sup>1</sup>Tuberous and corm vegetables (except potato) (subgroup 1D) including arracacha, arrowroot, bitter cassava, chayote (root), Chinese artichoke, chufa, dasheen, edible canna, ginger, Jerusalem artichoke, leren, sweet cassava, sweet potato, tanager, true yam, turmeric, yam bean.

**Ground Application:** Apply in a minimum of 10.0 gallons per acre by conventional ground equipment. Use a spray volume that assures uniform coverage of the infested portions of the treated crop. Calibrate equipment to the desired spray volume.

**Aerial Application:** Apply in a minimum of 10.0 gallons per acre. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

Pests	Application Rate (fl oz/A)	Application Timing
armyworms cabbageworms cutworm (suppression only) loopers saltmarsh caterpillar webworms	6.0 to 10.0 (0.094 to 0.156 lb ai/A)	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply to protect new growth until moth flights and/or hits subside.

**Restrictions**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 64.0 fluid ounces of Invertid 2F (1.0 pound active ingredient) per acre per year.
- Do not make more than 3 applications per acre per year.
- **Minimum Re-treatment Interval:** 14 days
- See Rotational Crop Restrictions.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Do not store in or around the home. Store unused product in a cool, ventilated, dry, and locked area, but not below 32 °F (0 °C). Do not allow prolonged storage in areas where temperatures frequently exceed 115 °F (46 °C).

NEVER TRANSFER THIS PRODUCT TO ANOTHER CONTAINER FOR STORAGE.

**PESTICIDE DISPOSAL:** Contamination with this product will render water, food or feed unfit for human or animal consumption. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING: Non-refillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

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TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.