

# Merit<sup>®</sup> 2F Insecticide

For foliar and systemic insect control in turfgrass (including sod farms), landscape ornamentals, fruit and nut trees and interior plantscapes.

## ACTIVE INGREDIENT:

\*Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimin ..... 21.4%

OTHER INGREDIENTS: ..... 78.6%

\*Protected by U.S. Patent No. 4,742,060 ..... 100.0%

Contains 2 pounds of imidacloprid per gallon.

**SHAKE WELL BEFORE USING**

EPA Reg. No. 432-1312

EPA Est. No. 3125-MO-01

**STOP - Read the label before use.  
Keep out of reach of children.**

## CAUTION

**PRECAUCION AL USUARIO:** Si usted no puede leer o entender inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

(TO THE USER: If you cannot read or understand English, do not use this product until the label has been fully explained to you.)

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577  
For PRODUCT USE Information Call 1-800-334-9745

## FIRST AID

<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 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 further treatment advice.</li></ul>
<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
Have a product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 800-334-7577 for emergency medical treatment information.	
<b>Note To Physician:</b> No specific antidote is available. Treat the patient symptomatically.	

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Harmful if swallowed, absorbed through skin or if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

#### Personal Protective Equipment (PPE):

**WPS USES:** Applicators and Other Handlers who handle this product for any use covered by the Worker Protection Standard (40 CFR part 170) – in general, agricultural plant uses e.g., use in sod farms, must wear:

- Long-sleeved shirt and long pants

- Chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.
- Shoes plus socks

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

**Non-WPS USES:** Applicators and other handlers who handle this product for any use NOT covered by the Worker Protection Standard (40 CFR part 170) – in general, only agricultural plant uses are covered by the WPS, must wear:

- Shirt and pants
- Gloves
- Shoes plus socks

**Engineering controls statements:**

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

**USER SAFETY RECOMMENDATIONS**

**User should:**

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.
- Remove and wash contaminated clothing before reuse.

**ENVIRONMENTAL HAZARDS**

This product is highly toxic to aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

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

This chemical demonstrates the 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.

**Do not formulate this product into other end-use products.**

**DIRECTIONS FOR USE**

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

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

**AGRICULTURAL USE REQUIREMENTS**

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

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

**Exception:** If the product is applied by drenching, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls
- Chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.
- 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 children and pets off treated area until dry.

## STORAGE AND DISPOSAL

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

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

**Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides above. In spill or leak incidents, keep unauthorized people away. You may contact the Bayer Environmental Science Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Bayer Environmental Science Emergency Response Telephone No. is 1-800-334-7577 or contact Chemtrec at 800-424-9300.

## APPLICATION TO TURFGRASS

MERIT 2F Insecticide can be used for the control of soil inhabiting pests of turfgrass, such as Northern & Southern masked chafers, *Cyclocephala borealis*, *C. immaculata*, and/or *C. lurida*; Asiatic garden beetle, *Maladera castanea*; European chafer, *Rhizotrogus majalis*; Green June beetle, *Cotinis nitida*; May or June beetle, *Phyllophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Spherophorus* spp.; Annual bluegrass weevil, *Hyperodes* spp.; Black turfgrass ateniens, *Ataenius spretulus* and *Aphodius* spp. European Crane Fly *Tipula paludosa*, and mole crickets, scapteriscus spp. MERIT 2F Insecticide can also be used for suppression of cutworms and chinch bugs. MERIT 2F Insecticide can be used as directed on turfgrass in sites such as home lawns, business and office complexes, shopping complexes, multi-family residential complexes, golf courses, airports, cemeteries, parks, playgrounds, athletic fields and sod farms.

The active ingredient in MERIT 2F Insecticide has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. High levels of control can be achieved when applications are made preceding or during the egg laying period. The need for an application can be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Optimum control will be achieved when applications are made prior to egg hatch of the target pests, followed by sufficient irrigation or rainfall to move the active ingredient through the thatch.

Applications should not be made when turfgrass areas are waterlogged or the soil is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist. The treated turf area must be in such a condition that the rainfall or irrigation will penetrate vertically in the soil profile. Applications cannot exceed a total of 1.6 pints (0.4 lb of active ingredient) per acre per year.

## APPLICATION EQUIPMENT FOR USE ON TURFGRASS

Apply MERIT 2F Insecticide in sufficient water to provide adequate distribution in the treated area. The use of accurately calibrated equipment normally used for the application of turfgrass insecticides is required. Use equipment which will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift. Check calibration periodically to ensure that equipment is working properly.

## APPLICATION TO ORNAMENTALS

MERIT 2F Insecticide is for use on ornamentals in commercial and residential landscapes and interior plantscapes. MERIT 2F Insecticide is a systemic product and will be translocated upward into the plant system from root uptake. To assure optimum effectiveness, the product must be placed where the growing portion of the target plant can absorb the active ingredient. The addition of a nitrogen containing fertilizer, where applicable, into the solution may enhance the uptake of the active ingredient. Application can be made by foliar application or soil applications; including soil injection, drenches, and broadcast sprays. Foliar applications offer locally systemic activity against insect pests.

When making soil applications to plants with woody stems, systemic activity will be delayed until the active ingredient is translocated throughout the plant. In some cases, this translocation delay could take 60 days or longer. For this reason, applications should be made prior to anticipated pest infestation to achieve optimum levels of control.

For outdoor ornamentals, broadcast applications cannot exceed a total of 1.6 pints (0.4 lb of active ingredient) per acre per year.

## Ant Management Programs

Use MERIT 2F to control aphids, scale insects, mealybugs and other sucking pests on ornamentals to limit the honeydew available as a food source for ant populations. MERIT 2F applications can be then be supplemented with residual sprays, bait placements or other ant control tactics to further reduce the pest population.

**NOTE:** Not for use in commercial greenhouses, nurseries, or on grasses grown for seed, or on commercial fruit and nut trees.

### APPLICATION EQUIPMENT FOR FOLIAR APPLICATIONS

MERIT 2F Insecticide mixes readily with water and may be used in many types of application equipment. Mix product with the required amount of water and apply as desired dependent upon the selected use pattern.

When making foliar applications on hard to wet foliage such as holly, pine, or ivy, the addition of a spreader/ sticker is recommended. If concentrate or mist type spray equipment is used, an equivalent amount of product should be used on the area sprayed, as would be used in a dilute application.

MERIT 2F Insecticide has been found to be compatible with commonly used fungicides, miticides, liquid fertilizers, and other commonly used insecticides. Check physical compatibility using the correct proportion of products in a small jar test if local experience is unavailable.

Do not apply through any irrigation system.

RECOMMENDED APPLICATIONS		
CROP	PEST	DOSAGE MERIT 2F
Turf Grasses	Larvae of:	European Crane Fly
	Annual bluegrass weevil	Green June beetle
	Asiatic garden beetle	Japanese beetle
	Billbug	Northern masked chafer
	Black turfgrass ataenius	Oriental beetle
	Cutworms (suppression)	<i>Phyllophaga</i> spp.
	European chafer	Southern masked chafer
For optimum control of grubs, billbugs, annual bluegrass weevil, and European Crane Fly make application prior to egg hatch of the target pest. Be sure to read "APPLICATION EQUIPMENT" Section of this label.		
	Chinchbugs (suppression)	Mole crickets
		1.6 pt /A or 0.6 fl oz (17 mL) per 1000 sq ft
For suppression of chinchbugs, make application prior to the hatching of the first instar nymphs. For control of mole crickets make application prior to or during the peak egg hatch period. When adults or large nymphs are present and actively tunneling, MERIT 2F application should be accompanied by a curative insecticide. Follow label instructions for other insecticides when tank-mixing.		
Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.		
<b>NOTE:</b> For optimum control, irrigation or rainfall should occur within 24 hours after application to move the active ingredient through the thatch. Do not apply more than 1.6 pt (0.4 lb of active ingredient) per acre per year. Avoid mowing turf or lawn area until after sufficient irrigation or rainfall has occurred so that uniformity of application will not be affected.		

**RECOMMENDED APPLICATIONS**

For use only in and around industrial and commercial buildings and residential areas

CROP	PEST		DOSAGE MERIT 2F
Trees Shrubs Evergreens Flowers Foliage plants Groundcovers Interior plantscapes	Adelgids Aphids Japanese beetles Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter)	Mealybugs Psyllids Sawfly larvae Thrips (suppression) Whiteflies	1.5 fl oz (45 mL) per 100 gal of water
<b>Foliar Applications:</b> Start treatments prior to establishment of high pest populations and reapply on an as needed basis.			
White grub larvae (such as Japanese beetle larvae, Chafers, <i>Phyllophaga</i> spp. Asiatic garden beetle, Oriental beetle)		0.46 to 0.6 fl oz (14 to 17 mL) per 1000 sq ft	
<b>Broadcast Applications:</b> Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. Do not use less than 2 gallons of water per 1000 sq ft. For optimum control, irrigate thoroughly to incorporate MERIT 2F Insecticide into the upper soil profile. Refer to use directions specific for FLOWERS and GROUND COVERS concerning additional use directions.			

**RECOMMENDED APPLICATIONS - TREES, SHRUBS, FLOWERS AND GROWDCOVERS**

For use only in and around industrial and commercial buildings and residential areas, and state, national, and private wooded and forested areas for the insect pests listed below:

Adelgids	Japanese beetles	Leafminers	Sawfly larvae
Aphids	Lace bugs	Mealybugs	Soft scales
Armored scales (suppression)	Leaf beetles (including elm and viburnum leaf beetles)	Pine tip moth larvae	Thrips (suppression)
Black vine weevil larvae	Leafhoppers (including glassy-winged sharpshooter)	Psyllids	White grub larvae
Emerald ash borer		Royal palm bugs	Whiteflies
Eucalyptus longhorned borer			
Flatheaded borers (including bronze birch and alder borer)			

<b>TREES</b>	0.1 to 0.2 fl oz (3 to 6 mL) per inch of trunk diameter (D.B.H.)
--------------	--

**Soil Injection:** GRID SYSTEM: Holes should be spaced on 2.5 foot centers, in a grid pattern, extending to the drip line of the tree. CIRCLE SYSTEM: Apply in holes evenly spaced in circles, (use more than one circle dependent upon the size of the tree) beneath the drip line of the tree extending in from that line. BASAL SYSTEM: Space injection holes evenly around the base of the tree trunk no more than 6 to 12 inches out from the base.

Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. For optimum control, keep the treated area moist for 7 to 10 days. Do not use less than 4 holes per tree.

**No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.**

**Soil Drench:** Uniformly apply the dosage in no less than 10 gallons of water per 1000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.

**For Control of Specified Borers:** Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress.

<b>SHRUBS</b>	0.1 to 0.2 fl oz (3 to 6 mL) per foot of shrub height
---------------	---

**Soil Injection:** Apply to individual plants using dosage indicated.

Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. Keep the treated area moist for 7 to 10 days. Do not use less than 4 holes per shrub.

**No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.**

**Soil Drench:** Uniformly apply the dosage in no less than 10 gallons of water per 1000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.

<b>FLOWERS AND GROWDCOVERS</b>	0.46 to 0.6 fl oz (14 to 17 mL) per 1000 sq ft
--------------------------------	--

Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. If application is made to established plants, optimum control will be attained if area is irrigated thoroughly after application.

**RECOMMENDED APPLICATIONS**

For use only in and around residential areas

CROP	PEST	RATE PER APPLICATION	
<b>Pome Fruits</b> Apple Crabapple Loquat Mayhaw Pear Pear (oriental) Quince	Aphids (except Woolly apple aphid) Leafhoppers (including glassy-winged sharpshooter)	Leafminer Mealybugs* San Jose scale*	1.5 fl oz (45 mL) per 100 gal 6.0 fl oz/A <sup>1</sup>

Apply specified dosage as foliar spray as needed after petal-fall is complete.

For control of rosy apple aphid, apply prior to leafrolling caused by the pest.

For first generation leafminer control, make first application as soon as petal-fall is complete. Greatest leafminer control will result from the earliest possible application. For second and succeeding generations of leafminer, optimal control is obtained from applications made early in the adult flight against egg and early instar larvae. A second application may be required 10 days later if severe pressure continues or if generations are overlapping. A single application may result in suppression only. MERIT 2F will not control late stage larvae.

For San Jose Scale, time applications to the crawler stage. Treat each generation.

For late season (preharvest) control of leafhopper species, apply MERIT 2F while most leafhoppers are in the nymphal stage.

For optimal control of mealybug, insure good spray coverage of the trunk and scaffolding limbs or other resting sites of the mealybug.

Do not apply more than 6.0 fluid ounces per acre in a single application. Do not make more than 5 applications.

Allow 10 or more days between applications. Allow at least 7 days between last application and harvest.

\* Not for use in California for control on pears.

Pecan*	Yellow pecan aphid Black margined aphid Pecan leaf phylloxera	Pecan spittlebug Pecan stem phylloxera	1.5 fl oz (45 mL) per 100 gal 6.0 fl oz/A <sup>1</sup>
--------	---	---	---

Make foliar applications as pests begin to build before populations become extreme. Two applications at a 10 to 14 day interval may be required to achieve control. Scout and retreat if needed.

Thorough uniform coverage of foliage is necessary for optimal control. Addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's recommended use rate may improve coverage.

Do not apply more than a total of 18.0 fluid ounces of MERIT 2F per acre per year. Do not make more than 3 applications.

Allow 10 or more days between applications.

<sup>1</sup> The amount of MERIT 2F required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees.

\* Use on pecans not permitted in California unless directed by specific supplemental labeling.

**RECOMMENDED APPLICATIONS**

For use only in and around industrial and commercial buildings and residential areas

CROP	PEST	RATE PER APPLICATION	
Grapes	Leafhoppers (including glassy-winged sharpshooter) Mealybugs	1.5 fl oz (45 mL) per 100 gal	3.0 fl oz/A (90 mL/A)

Apply specified dosage as a foliar spray using 200 gallons of water per acre. Do not apply more than a total of 6.0 ounces of MERIT 2F per acre per year. Allow at least 14 days between applications. Applications may be applied up to and including day of harvest.

**RESTRICTIONS**

Do not graze treated areas or use clippings from treated areas for feed or forage. Avoid runoff or puddling of irrigation water following application. Keep children and pets off treated area until dry. Avoid application of MERIT 2F Insecticide to areas which are water logged or saturated, which will not allow penetration into the root zone of the plant. Do not apply more than 1.6 pt (0.4 lb of active ingredient) per acre per year.

Treated areas may be replanted with any crop specified on an imidacloprid label, or with any crop for which a tolerance exists for the active ingredient.

For crops not listed on an imidacloprid label, or for crops for which no tolerances for the active ingredient have been established, a 12-month plant-back interval should be observed.

### **IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of liability before using this product.

If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

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

**DISCLAIMER OF WARRANTIES:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. BAYER CROPSCIENCE LP DISCLAIMS ANY liability whatsoever for special, incidental or consequential damages, resulting from the use or handling of this product.

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

This Product is specially formulated and sold under license from Bayer only for the uses set forth on this label. The active ingredient of this product, formulations containing this active ingredient, and/or methods of making or using this active ingredient or its formulations may be the subject of one or more Bayer patents, including but not limited to U.S. Patent No. 4,742,060. The purchase and/or use of this product constitutes acceptance of a limited license to use this product only in strict accordance with the instructions set forth on this label. Any use of this product other than as expressly set forth on this label is prohibited and is not licensed through the purchase and/or use of this product and may result in the infringement of one or more Bayer patents and/or other intellectual property rights.

**NET CONTENTS: 2.88L**



**Bayer Environmental Science**

**A Business Group of Bayer CropScience LP  
2 T. W. Alexander Drive  
P.O. Box 12014  
Research Triangle Park, NC 27709**

09/22/06