RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

OnyxPro™

INSECTICIDE

For Commercial Non-Food Use in Interiorscapes and on Outdoor Ornamentals, Christmas Trees, Nurseries, Lawns, Sod Farms, and Golf Courses.

EPA Reg. No. 279-4269 **EPA Est. No. 279-FL-1**

Active Ingredient:	**By Wt.**
Bifenthrin*	23.4%
Other Ingredients**	76.6%
Total:	100.0%

*Cis isomers 97% minimum, trans isomers 3% maximum.
**Contains petroleum distillates.
OnyxPro Insecticide contains 2 pounds active ingredient per gallon.
U.S. Patent No. 4,238,505

KEEP OUT OF REACH OF CHILDREN

WARNING
AVISO

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

See other panels for additional precautionary information.

DO NOT USE THIS PRODUCT ON GOLF COURSES AND SOD FARMS IN NASSAU COUNTY OR SUFFOLK COUNTY, NEW YORK.

FMC

FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia PA 19103

Net Contents

5-18-08

FIRST AID

If swallowed	• Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-(800)-331-3148 for Emergency Assistance.

NOTE TO PHYSICIAN

Pesticide Hotline (800) 858-7378. This product is a pyrethroid. This product also contains aromatic hydrocarbons. Because of the risk of hydrocarbon pneumonitis if even tiny amounts are aspirated into the lung during emesis, consideration should be given to gastric lavage with endotracheal tube in place. Treatment is symptomatic and supportive. Animal and vegetable fats, milk, cream and alcohol may increase absorption and should not be administered.

For Information Regarding the Use of this Product Call 1-800-321-1FMC (1362).

PRECAUTIONARY STATEMENTS
Hazards to Humans (and Domestic Animals)

Warning

May be fatal if swallowed. Causes skin irritation and moderate eye irritation. Do not get on skin or on clothing. Avoid breathing vapors or spray mist, and contact with eyes. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash contaminated clothing before reuse.

Personnel Protective Equipment:

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions or category C on an EPA chemical resistance category selection chart.

Applicators and other handlers (other than mixers and loaders) must wear:

- Coveralls worn over short-sleeved shirt and short pants.
- Socks
- Chemical resistant footwear
- Chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, polyvinyl chloride or viton.

Mixers and Loaders must wear:

- Coveralls worn over short sleeved-shirt and short pants
- Socks
- Chemical resistant footwear.
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, polyvinyl chloride or viton.
- Chemical resistant apron when mixing and loading and cleaning equipment.

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

Environmental Hazards

This pesticide is extremely toxic to fish and 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 by cleaning of equipment or disposal of equipment washwaters. Do not apply when weather conditions favor drift from treated areas. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops. Do not apply this product or allow it to drift to crops or weeds on which bees are actively foraging. Additional information may be obtained from your Cooperative Extension Service.

Physical/Chemical Hazards

Do not use or store near heat or open flame. Do not apply this product in or on electrical equipment due to the possibility of shock hazard.

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 spray 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.

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, such as Barrier Laminate or Nitrile Rubber or Neoprene Rubber or Viton, 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 Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries and greenhouses.

Do not allow people or pets on treated areas until the spray has dried.

STORAGE AND DISPOSAL

Pesticide Storage

If crystals are observed, warm material to above 60°F by placing container in warm location. Shake or roll container periodically to redissolve solids. Do not use external source of heat for warming container.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: (800) 331-3148.

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter, commercial clay or gel absorbent. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal

Metal or Plastic Container: Non-refillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after flow begins to drip. Fill the container _ full with water and recap. Shake for 10 seconds, Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable/Refillable Containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

User Safety Recommendations:

Users should:

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

General Information on the Use of this Product

For use on plants intended for aesthetic purposes or climatic modifications and being grown in interior plantscapes and on outdoor ornamentals, Christmas trees, nurseries, lawns, sod farms and golf courses.

General Application Instructions

OnyxPro™ Insecticide formulation mixes readily with water and other aqueous carriers, and controls a wide spectrum of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes including hotels, shopping malls, office buildings, etc. and, outdoor plantscapes, such as, but not limited to nurseries, residential dwellings, parks, institutional buildings, recreational areas, athletic fields, golf courses, sod farms and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

OnyxPro may be tank-mixed with other products, including insect growth regulators. When tank mixing OnyxPro with other products, observe all precautions and limitations on each separate product label. The addition of spreader stickers is not necessary. The physical compatibility of OnyxPro may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

The following procedure is recommended for preparation of a new tank mix, unless specified otherwise in label directions: (1) Add wettable

powders to tank water, (2) Agitate, (3) Add liquids and flowables, (4) Agitate, (5) Add emulsifiable concentrates, and (6) Agitate. If a mixture is found to be incompatible following this order of addition, try reversing the order of addition, or increase the volume of water. **Note:** If the tank-mixture is found to be compatible after increasing the amount of water, then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight. When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation to keep the mixture in solution.

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state pest management authorities for details.

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

APPLICATION DIRECTIONS

TRUNK SPRAYS TO ORNAMENTAL TREES (including Christmas trees)

Control of bark beetles and boring beetles:
Consult table below. Application rates and application timing differ according to the target pest and other factors peculiar to each local situation. Consult your local State Extension specialist or other qualified expert for specific recommendations. Do not apply more than 12.8 fl oz (0.2 lbs ai) of this product to trees per acre. Repeat application may be necessary if reinfestation is likely.

Pest	Recommended Rate For Preventive Control	Recommend Spray Volume	Specific Instructions
Dendroctonus bark beetles such as mountain pine beetle, southern pine beetle, western pine beetle and black turpentine beetle.	16-32 fl oz per 100 gallons (0.25 – 0.5 lb ai per 100 gallons)	1-4 gallons of finished spray per tree	Make applications to the trunk of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestation. Apply spray directly to the main trunk from the base of the tree to at least half way into the live crown. Spray until the bark is thoroughly wetted by the spray.
Engraver beetles (*Ips* spp.)	16-32 fl oz per 100 gallons (0.25 – 0.5 lb ai per 100 gallons)	10-14 gallons of finished spray per tree	
Other bark beetles such as ambrosia beetles, elm bark beetles and metallic wood borers such as emerald ash borer	16-32 fl oz per 100 gallons (0.25 – 0.5 lb ai per 100 gallons)	2-6 gallons of finished spray per tree	Make applications of a spray mixture to the trunk, scaffolding and limbs of the tree with a hydraulic sprayer and/or backpack sprayer in the early spring or prior to adult beetle flight and tree infestation. Spray until the bark is thoroughly wetted by the spray.
Clearwing moth borers, such as ash borer, banded ash clearwing, dogwood borer, lesser peachtree borer, lilac borer, oak borer, peachtree borer, rhododendron borer	6.4 to 12.8 fl. oz. per 100 gallons (0.1 – 0.2 lb ai per 100 gallons	1-4 gallons of finished spray per tree	Apply to the branches and trunks prior to adult emergence. Spray until the bark is thoroughly wetted by the spray. For maximum residual control, use highest recommended rate.
Coleopteran borers, such as bronze birch borer, flatheaded appletree borer	6.4 to 12.8 fl. oz. per 100 gallons (0.1 – 0.2 lb ai per 100 gallons)	1-4 gallons of finished spray per tree	

Treatment of infested trees to control emerging brood: Make applications of a spray mixture containing 2.0 pints of OnyxPro Insecticide per 100 gallons of water to trees that still have beetles in the bark. Apply spray directly to the main trunk from the base of the tree to at least half way into the live crown. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product to trees per acre. Trees on which 50% or more of the foliage is brown or non-developing generally have been vacated and should not be sprayed unless infestation is confirmed. To confirm an infestation, scrape off the outer bark to determine if trees are still infested. If live infestations remain in the trunks, fell the trees and cut into sections. Spray the trunk and large limbs and turn sections so that all of the surface area can be treated. Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product to trees per acre.

FOLIAR SPRAYS TO ORNAMENTALS AND TREES (Including Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)

For applications to ornamentals (including but not limited to trees, shrubs, ground covers, bedding plants, and foliage plants, conifers (field and container grown), Christmas trees and pine seed orchards) apply 0.04 to 0.32 fluid oz. of OnyxPro per 1,000 square feet or 1.8 to 14.4 fl. oz. per 100 gallons. OnyxPro may be diluted and applied in various volumes of water providing that the maximum label rate (0.32 fluid oz. per 1,000 square feet or 14.4 fl. oz per 100 gallons.) is not exceeded. Onyx Pro may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (0.32 fluid oz. per 1,000 square feet or 14.4 fl. oz per 100 gallons) is not exceeded.

Apply the specified application rate as a full coverage foliar spray. Repeat treatment as necessary to achieve control using higher application rates as pest pressure & foliage area increases. Do not apply more often than once per seven days. Certain cultivars may be sensitive to the final spray solution. A small number of plants should be treated and observed for one week prior to application to the entire planting. Periodic use of an alternate class of chemistry in a treatment program is recommended to prevent or delay pest resistance.

Calculating Dilution Rates using the Ornamental Application Rates Table and the OnyxPro Ornamental Dilution Chart: The following steps should be taken to determine the appropriate dilution of this product that is required to control specific pests:

1) Identify the least susceptible target pest (the pest requiring the highest application rate for control).

2) Select an application rate in terms of fluid oz. of this product.

3) Identify your application volume and how much spray mix you want to prepare.

4) Use the Ornamental Dilution Chart to determine the appropriate volume of this product that must be mixed in your desired volume of water.

For example, suppose you are trying to control black vine weevil adults on rhododendron. The Ornamental Application Rates table shows that 0.08 to 0.16 fluid oz. of this product should be applied per 1,000 square feet. You select an application rate of 0.16 fluid oz. per 1,000 square feet because maximum residual control is desired. Your application volume is approximately 300 gallons per acre, which is equivalent to 6.9 gallons per 1,000 square feet. Consulting the Ornamental Dilution Chart reveals that you should dilute 0.24 fluid oz. of this product in 10 gallons of water.

OnyxPro Ornamental Dilution Chart

	Fluid Ounces (ml) of OnyxPro diluted to the Volumes of Finished Spray						
Application Rate:	1 Gallon		5 Gallons		10 Gallons		100 Gallons
Fl. oz./ 1000 sq. ft.	fl. oz.	ml	fl. oz.	ml	fl. oz.	ml	fl. oz.
0.04	0.018	0.5	0.09	2.6	0.18	5.3	1.8
0.08	0.036	1.1	0.18	5.3	0.36	10.6	3.6
0.16	0.072	2.1	0.36	10.6	0.72	21.3	7.2
0.32	0.144	4.3	0.72	21.3	1.44	42.6	14.4

$$\frac{(23.4)(\text{Fl. Oz. of OnyxPro added to tank})}{(\text{Gallons of finished spray mix})(128)} = \text{Percent Active Ingredient of spray mix}$$

Ornamental and Tree Foliar Application Rates

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, this product may be applied at up to 0.32 fluid oz. per 1,000 square feet (14.4 fl. oz. per 100 gallons) to control each of the pest listed in this Table. The higher application rates should be used when maximum residual control is desired.

Pest	OnyxPro Insecticide Application Rate	
	Fluid Ounces per 1,000 square feet	Fluid Ounces per 100 gallons
Bagworms[1] Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars Tussock moth	0.04 - 0.08	1.8 - 3.6
Adelgids[†] Ants Aphids Bees Beet Armyworm Beetles[2, †] Black Vine Weevil (Adults) Scales, such as Brown Soft Scales California Red Scale (Crawlers)[2] Cryptomeria Scale Elongated Hemlock Scale Pine Needle Scales (Crawlers)[2] San Jose Scales (Crawlers)[2] Broad Mites Budworms Cicadas[†] Citrus Thrips Clover Mites Crickets Douglas-fir needle midge[2] Earwigs European Red Mite Flea Beetles Fungus Gnats Glassywinged Sharpshooter Grasshoppers Japanese Beetle (Adult)[†] Leafhoppers Leafrollers Mealybugs Mites Mosquitoes Nantucket pine tip moth Pillbugs Pine sawflies Plant Bugs (Including Lygus spp.) Psyllids[†] Scorpions Spider Mites[3] Spiders Spittlebugs[†] Thrips Tip Moths Treehoppers[†] Twig Borers[2] Wasps Weevils[2] such as White Pine Weevil Pales Weevil Diaprepes adults Orchid Weevil Whiteflies Zimmerman pine moths	0.08 - 0.16	3.6 - 7.2
Imported Fire Ants** Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Spider Mites[3]	0.16 - 0.32	7.2 - 14.4

[1]Bagworms: For best results, apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.

[2,†]Beetles, Needle Midge, Scale Crawlers, Twig Borers, and Weevils: May treat trunks, stems and twigs in addition to plant foliage. For scales, best results are achieved when thorough spray coverage is achieved at the beginning of crawler activity. Effective white pine weevil treatment only requires spot-treatment of the leader, from the tip to the top whorl of branches. Effective management of pales weevil may be achieved by spot-treating stumps before forsythia bloom; do not add oil to this spray. Spray at the time of bud break to control Douglas-fir needle midge.

[3]Spider Mites: OnyxPro provides optimal twospotted spider mite control when applied during spring to mid-summer. Higher application rates and/or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer. The addition of a surfactant or horticultural oil may increase the effectiveness of this product. Combinations of this product with other registered miticides have also proven effective. Alternately, OnyxPro applications may be rotated with those of other products that have different modes of action in control programs that are designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.

**For foraging ants.

[†]Not for use in California.

BROADCAST SPRAYS TO TURFGRASS (including lawns, golf courses, sod farms, parks, etc).

Apply OnyxPro™ Insecticide as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage.

For low water volume usage, less than 2 gallons/1000 square feet, addition of a non-ionic or silicone based surfactant (0.25% v/v) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests such as, but not limited to, mole crickets.

Turfgrass Application Rates

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, OnyxPro Insecticide may be applied at up to 0.32 fl. oz. per 1000 square feet to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur.

Pest	Application Rate of OnyxPro
Armyworms[4] Cutworms[4] Sod Webworm[4]	0.05 - 0.08 fluid oz. per 1000 sq. ft.
Annual Bluegrass Weevil (Hyperodes) (Adult)[2] Banks Grass Mite[9] Billbugs (Adult)[6] Black Turfgrass Ataenius (Adult)[7] Crane Flies[8] Crickets Earwigs Fleas (Adult) Grasshoppers Mealybugs Mites[9]	0.08 - 0.16 fluid oz. per 1000 sq. ft.
Ants Chinch Bugs[10] Fleas (Larvae)[11] Imported Fire Ants[12] Japanese Beetle (Adult) Mole Cricket (Adult)[13] Mole Cricket (Nymph)[14] Ticks[15]	0.16 - 0.32 fluid oz. per 1000 sq. ft.

In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).

In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

Comments

[4]**Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.32 fluid oz. per 1000 square feet) may be required during periods of high pest pressure.

[5]**Annual Bluegrass Weevil (*Hyperodes*) adults:** Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when Forsythia is in full bloom and concludes when flowering dogwood (Cornus florida) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

[6]**Billbug adults:** Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

[7]**Black Turfgrass Ataenius adults:** Applications should be made during May and July to control the first and second generation of black turfgrass ataenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (Spiraea vanhouttei) and horse chestnut (Aesculus hippocastanum). The July application should be timed to coincide with the blooming of Rose of Sharon (Hibiscus syriacus).

[8]**Crane Flies:** Treatments should be made to control early to mid-season larvae (approximately August – February) as they feed on plant crowns. Treatments made to late-season larvae (approximately March - April) may only provide suppression. Consult your local extensions agent for specific recommendations for your area.

[9]**Mites:** To ensure optimal control of eriophyid mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.

[10]**Chinch Bugs:** Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher application rates (up to 0.32 fluid oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer

[11]**Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area

is being treated with this product at 0.08 fluid oz. per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

[12]**Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Broadcast treatments must apply 0.1 to 0.2 lbs ai/A (0.16 to 0.32 fl. ozs per 1000 sq. ft.). Use enough finished volume to penetrate thatch or sod. Mounds must be treated by applying 0.32 oz OnyxPro per mound in 1 to 2 gallons water by sprinkling the mound until it is wet and treat 3 feet out around the mound. Use the higher volume for mounds larger than 12". The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. For best results, apply in cool weather (65 - 80°F) or in early morning or late evening hours.

[13]**Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Grass areas that receive pressure from adult mole crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

[14]**Mole Cricket nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.

[15]**Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever):** Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application should be limited to no more than once per seven days.

Deer ticks *(Ixodes sp.)* have a complicated life cycle that ranges over a two year period and involves four life stages. Applications should be made in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.

American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

OnyxPro Lawn Dilution Chart

		Fluid Ounces (ml) of OnyxPro diluted to the Volumes of Finished Spray						
Application Volume: Gallons/ 1000 sq. ft.	Application Rate: fl. oz./ 1000 sq. ft.	1 Gallon		5 Gallons		10 Gallons		100 Gallons
		fl. oz.	ml	fl. oz.	ml	fl. oz.	ml	fl. oz.
1	0.05	0.05	1.48	0.25	7.39	0.50	14.8	5.00
1	0.08	0.08	2.37	0.40	11.83	0.80	23.7	8.00
1	0.16	0.16	4.73	0.80	23.66	1.60	47.3	16.00
1	0.32	0.32	9.46	1.60	47.32	3.20	94.6	32.00
2	0.05	0.025	0.74	0.13	3.70	0.25	7.4	2.50
2	0.08	0.040	1.18	0.20	5.91	0.40	11.8	4.00
2	0.16	0.080	2.37	0.40	11.83	0.80	23.7	8.00
2	0.32	0.160	4.73	0.80	23.66	1.60	47.3	16.00
3	0.05	0.017	0.49	0.08	2.46	0.17	4.9	1.67
3	0.08	0.027	0.79	0.13	3.94	0.27	7.9	2.67
3	0.16	0.053	1.58	0.27	7.89	0.53	15.8	5.33
3	.0.32	0.107	3.15	0.53	15.77	1.07	31.5	10.67
4	0.05	0.013	0.37	0.06	1.85	0.13	3.7	1.25
4	0.08	0.020	0.59	0.10	2.96	0.20	5.9	2.00
4	0.16	0.040	1.18	0.20	5.91	0.40	11.8	4.00
4	0.32	0.080	2.37	0.40	11.83	0.80	23.7	8.00
5	0.05	0.010	0.30	0.05	1.48	0.10	3.0	1.00
5	0.08	0.016	0.47	0.08	2.37	0.16	4.7	1.60
5	0.16	0.032	0.95	0.16	4.73	0.32	9.5	3.20
5	0.32	0.064	1.89	0.32	9.46	0.64	18.9	6.40
10	0.05	0.005	0.15	0.03	0.74	0.05	1.5	0.50
10	0.08	0.008	0.24	0.04	1.18	0.08	2.4	0.80
10	0.16	0.016	0.47	0.08	2.37	0.16	4.7	1.60
10	0.32	0.032	0.95	0.16	4.73	0.32	9.5	3.20

Spray Drift Precautions (For turf & ornamental uses)

Do not apply when wind conditions favor downwind drift to nearby water bodies.

Do not apply when wind velocity exceeds 10 miles per hour.

Avoid application when wind gusts approach 10 mph.

Apply using nozzles that provide the largest droplet size compatible with adequate coverage.

Imported Fire Ant Quarantine Treatment

Against Imported Fire Ants (IFA) in Potting Media (including balled and containerized nursery grown ornamental trees, shrubs, plants, flowers, conifers, bushes, Christmas trees, and non-bearing fruit and nut-trees). OnyxPro Insecticide is approved and can be used in accordance with the USDA Imported Fire Ant Quarantine Program. OnyxPro Insecticide may be applied either soil incorporated, as a topical application, or as a high volume drench treatment.

Soil Incorporation: Incorporate the appropriate volume of OnyxPro Insecticide (see table below) per cubic yard of potting media by diluting it in water and sprinkling or spraying it onto the media. The applications are based on the dry bulk density of the potting media. When used in accordance with USDA guidelines, this application will provide a 6 month certification period.

Soil Incorporation Rate of OnyxPro Insecticide for Control of IFA in Potting Media.

Soil Incorporation Rate of OnyxPro Insecticide for Control of IFA in Potting Media.

Potting Media Bulk Density (lbs. cubic yard)	Fluid ounces of OnyxPro in one cubic yard
200	0.6
400	1.3
600	2.0
800	2.6
1000	3.2
1200	3.9
1400	4.5

Use proportional amounts of OnyxPro Insecticide for potting media with bulk densities not listed.

Topical Application: Mix OnyxPro Insecticide in 1,000 ounces of water based on container size and bulk density of the potting media (see table below). Apply one (1) ounce of the mix to each container evenly distributed over the surface of the potting media. Irrigate all treated containers with 1.5 inches of water following application. When used in accordance with USDA guidelines, this application will provide a 6 month certification period.

Topical Drench Application Rate of OnyxPro Insecticide for Control of IFA in Potting Media.

Potting Media Bulk Density (lbs. cubic yard)	Fluid ounces of OnyxPro Insecticide per 1,000 ounces of water	
	3 Qt. Container	4 Qt. Container
200	1.2	1.8
400	2.4	3.5
600	3.7	5.2
800	4.9	7.0
1000	6.1	8.8
1200	7.3	10.5
1400	8.5	12.3

Use proportional amounts of OnyxPro Insecticide for potting media with bulk densities not listed.

High Volume Drench: Apply OnyxPro Insecticide as a high volume drench by mixing the appropriate amount of product based on the bulk density in 100 gallons of water (see table below). Apply mix to individual containers to the point of saturation. The amount of mix used for each plant is generally 1/5 volume of the container. When used in accordance with USDA guidelines, this application will provide a 6 month certification period.

High Drench Application Rate of OnyxPro Insecticide for Control of IFA in Potting Media

Potting Media Bulk Density (lbs. cubic yard)	Fluid ounces of OnyxPro Insecticide in 100 Gallons
200	0.8
400	1.6
600	2.4
800	3.2
1000	4.0
1200	4.9
1400	5.7

Use proportional amounts of OnyxPro Insecticide for potting media with bulk densities not listed.

Soil Dip Treatment for Containerized Balled and Burlapped Nursery Stock - see next section

Larval Control in Potting Media of Containerized Plants

Black Vine Weevil Larva and White Grub Preventative Treatment - Topical Drench: For preventing black vine weevil larvae and white grubs in containerized plants, dilute OnyxPro Insecticide at the rate of 3.6 to 14.4 fl. ozs. (0.05 to 0.2 lb AI) per 100 gallons and apply as a drench at the rate of 4 to 8 fluid ounces of finished spray per 6 inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Ideally, the media should be treated to the point of saturation, which generally requires 1/5 the volume of the container. The higher dosage is suggested for high bulk density media. More than one year of benefit is obtained with this preventive treatment. To prevent black vine weevil, the entire root volume, even of rooted cuttings in plugs, must be treated. Therefore, a topical drench is advised prior to moving plants into preplant treated mix in larger containers.

Black Vine Weevil and White Grub Larval Control - Preventative Treatment - Media Incorporation: For preventative control of black vine weevil and white grub larvae in containerized plants, incorporate the appropriate volume of OnyxPro Insecticide (see table below) per cubic yard of potting media by diluting it in water (typically 1 quart to 1 gallon per cubic yard of media) and sprinkling or spraying it onto the media while mixing. Use the higher application rates for longer periods of control.

Potting Media Bulk Density (lbs. per cubic yard)	Fluid ounces of OnyxPro in one cubic yard			
	10 PPM	15 PPM	20 PPM	25 PPM
200	0.14	0.20	0.28	0.34
300	0.20	0.30	0.40	0.51
400	0.28	0.42	0.56	0.68
500	0.34	0.51	0.68	0.84
600	0.40	0.61	0.80	1.01
700	0.46	0.69	0.92	1.18
800	0.54	0.81	1.08	1.35
900	0.61	0.91	1.22	1.52
1000	0.68	1.01	1.36	1.69

The application rates listed above are based on the dry bulk density of the potting media. Use proportional volumes of OnyxPro Insecticide for potting media with dry bulk densities that are not listed above.

Black Vine Weevil Larval Control - Curative Treatment - Topical Drench: To control black vine weevil larvae infesting containerized plants, dilute OnyxPro Insecticide at the rate of 3.6 to 14.4 fl. ozs. (0.05 to 0.2 lb AI) per 100 gallons and apply as a drench at the rate of 8 to 16 fluid ounces of finished spray per 6 inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Ideally, the media should be treated to the point of saturation, which generally requires 1/5 the volume of the container.

Bare-root Treatment for Preventing Root Weevil and White Grub Larval Feeding: To protect treated roots of field grown nursery stock and Christmas trees from feeding by root weevil and white grub larvae, dilute 30 fl. ozs. of OnyxPro Insecticide in 100 gallons of water and treat the bare roots of plants that are being transplanted into the field either by dipping the roots into the insecticide solution or by spraying the insecticide solution onto the roots.

***Diaprepes* Weevil Larval Control - Curative Treatment - Topical Drench:** To control Diaprepes weevil larvae infesting containerized plants, dilute OnyxPro Insecticide at the rate of 3.6 to 14.4 fl. ozs (0.05 to 0.2 lb AI) per 100 gallons and apply as a drench at the rate of 8 to 16 fluid ounces of finished spray per 6 inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Ideally, the media should be treated to the point of saturation, which generally requires 1/5 the volume of the container.

Fungus Gnat Larval Control - Preventative Treatment - Topical Drench: For preventative control of fungus gnat larvae in containerized plants, dilute OnyxPro Insecticide at the rate of 7.2 to 14.4 fl. ozs (0.1 to 0.2 lb AI) per 100 gallons and apply as a drench at the rate of 4 to 8 fl. ozs of finished spray per 6 inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Ideally, the media should be treated to the point of saturation, which generally requires 1/5 the volume of the container. Use the higher application rate for a longer period of control.

Fungus Gnat Larval Control - Curative Treatment - Topical Drench: To control fungus gnat larvae infesting containerized plants, dilute OnyxPro Insecticide at the rate of 3.6 to 14.4 fl. ozs. (0.05 to 0.2 lb AI) per 100 gallons and apply as a drench at the rate of 8 to 16 fluid ounces of finished spray per 6 inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Ideally, the media should be treated to the point of saturation, which generally requires 1/5 the volume of the container.

Imported Fire Ant and Japanese Beetle Quarantine Treatment for Ornamentals (Soil Dip Treatment of Containerized or Balled and Burlapped Nursery Stock)

Use OnyxPro Insecticide to treat containerized (potted) or balled and burlapped nursery stock to control soil insects.

Ornamentals (Soil Treatment of Containerized or Balled and Burlapped Nursery Stock)	
Pest	**Amount of OnyxPro Insecticide per 100 gallons**
Fire ants[1]	7.5 fl. oz.
Japanese beetle grubs[2]	7.5 to 22 fl. oz

[1] For Federal Imported Fire Ant Quarantine, plants must be retreated if not sold within 180 days.
[2] Refer to U.S. Domestic Japanese Beetle Harmonization Plan (Dip Treatment - B&B and Container Plants) (http://www.nationalplantboard.org/policy/html) for the appropriate treatment rate as well as additional dip treatment restrictions on plant size, immersion duration, soil temperature, soil type, and soil moisture. Treatment should be applied between September 15 and May 1.

General Use Directions

Completely submerge the container with drain holes or root ball stabilized by burlap in a tank containing diluted OnyxPro Insecticide. Do not remove burlap wrap or containers with drain holes prior to submerging. Keep the container or root ball submerged until complete soil saturation has occurred, normally about 30 seconds.

Precautions: During all operations (submerging, drenching, injecting), wear chemical resistant apron in addition to other PPE listed for applicators and other handlers. Application should be made in a well-ventilated area. Environmental factors significantly affect phytotoxicity. OnyxPro Insecticide has been tested on numerous ornamental plants without causing serious phytotoxicity. However, because of the numerous varieties grown, it is recommended that a small group of plants be treated at the recommended rate under the anticipated growing conditions and observed for phytotoxic symptoms for at least 7 days, before a large number of plants are treated.

Note: The professional user assumes responsibility for determining if OnyxPro Insecticide is safe to treat plants under commercial growing conditions.

Disposal: Dispose of unused OnyxPro Insecticide immersion solutions in a manner that is consistent with appropriate state and federal regulations. Generally, residual solutions should be broadcast spread over a OnyxPro Insecticide approved use site in a manner that will not exceed the maximum labeled active ingredient amount per acre (i.e., 0.2 lb active ingredient)

Attention

Do not apply to pets, crops, or sources of electricity.

Firewood is not to be treated.

Do not allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.

Do not apply this pesticide in livestock buildings (barns).

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

Do not apply by air.

Do not use in greenhouses.

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

Do not apply when a temperature inversion exists.

Do not apply for surface feeding pests if rain is expected within 12 hours (or what ever time is necessary for the spray to dry).

For turf treatment, apply with nozzles not more than 2 feet above the grass.

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

Do not apply when grass areas are water logged or the soil is saturated with water (i.e. will not accept irrigation).

Vinyl and Aluminum Siding: Do not spray directly onto vinyl or aluminum siding. If OnyxPro inadvertently contacts vinyl and aluminum siding (particularly lightly colored, aged, weathered or otherwise damaged), it may result in staining, bleaching or discoloration. Wash off thoroughly with detergent and water. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Avoid application to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

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