



Zylam[®] 20SG

SYSTEMIC TURF INSECTICIDE

Group 4A Insecticide

For foliar and systemic insect control in turfgrass.

ACTIVE INGREDIENT:
 Dinotefuran, [N-methyl-N'-nitro-N''-(tetrahydro-3-furanyl)methyl]guanidine] 20%

OTHER INGREDIENTS: 80%

TOTAL 100%

KEEP OUT OF REACH OF CHILDREN CAUTION



READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.

Use in accordance with applicable state and federal regulations.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals
CAUTION: Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Do not allow contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

- Personal Protective Equipment (PPE)**
- Applicators and other handlers must wear:
 - Long-sleeved shirt and long pants
 - Shoes plus socks

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

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

First Aid	
If on skin or on clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for further treatment advice.
If swallowed:	<ul style="list-style-type: none"> • Call poison control center or doctor immediately for treatment advice. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.

(cont. on next column)

First Aid (cont.)	
If in eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for further treatment advice.
If inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call poison control center or doctor for further treatment advice.
<p>HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on (product, use, etc.), call the National Pesticides Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific time (PT), seven days a week. During other times, call the poison control center 1-800-222-1222.</p>	

Environmental Hazards
 This pesticide is 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 apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not dispose equipment washwaters or rinsate into a natural drain or water body.

This product is toxic to honey bees. The persistence of residues and potential residual toxicity of Dinotefuran in nectar and pollen suggests the possibility of chronic toxic risk to honey bee larvae and the eventual instability of the hive.

- This product is toxic to bees exposed to residue for more than 38 hours following treatment.
- Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state or federal authorities.

Dinotefuran and its degradate, MNG have the properties and characteristics associated with chemicals detected in groundwater. The high water solubility of dinotefuran, and its degradate, MNG, coupled with its very high mobility, and resistance to biodegradation indicates that this compound has a strong potential to leach to the subsurface under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination. Periodic monitoring of shallow groundwater in the use area is recommended.

Spray Drift Advisory
 Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crop thereof rendered for sale, use or consumption.

Physical or Chemical Hazards
 Do not use, pour, spill, or store near heat or open flame.

PROTECTION OF POLLINATORS

APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.
 Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

(cont. on next page)

PROTECTION OF POLLINATORS (cont.)

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications.
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

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

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: <http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

DIRECTIONS FOR USE

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

FOR COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS:



- Do not apply this product while bees are foraging.
- This product is toxic to bees exposed to treatment for more than 38 hours following treatment.
- Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state or federal authorities.



Do not apply Zylam® 20SG Systemic Turf Insecticide while bees are foraging. Do not apply Zylam 20SG Systemic Turf Insecticide to plants that are flowering. Only apply after all flower petals have fallen off.

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, greenhouses and handlers of agricultural insecticides. 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 product is drenched or soil-injected, workers may enter the area at any time 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
- Shoes plus socks
- Chemical resistant gloves (made of any waterproof material)

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. Do not allow others to enter treated areas until sprays have dried.

1. Product Information

Applications of Zylam 20SG Systemic Turf Insecticide in residential areas may be made by commercially licensed applicators.

Application to Turfgrass:

Use Zylam 20SG Systemic Turf Insecticide for the control of soil inhabiting pests of turfgrass such as Masked Chafers, European Chafer, Green June Beetle, May or June Beetle, Japanese Beetle, Oriental Beetle, Billbugs, Annual Bluegrass Weevil, Black Turfgrass Ataenius and Mole Crickets. Zylam 20SG Systemic Turf Insecticide is also suitable for the suppression of cutworms and chinchbugs in turfgrass areas.

Apply Zylam 20SG Systemic Turf Insecticide as directed on outdoor residential, recreational and commercial turfgrass in sites such as home lawns, commercial lawns, multi-family residential and apartment complexes, grounds or lawns around business and office complexes, shopping centers, airports, military and other institutions, cemeteries, golf courses, playgrounds, parks, athletic fields and sod farms.

Target timing of Zylam 20SG Systemic Turf Insecticide applications at or just prior to or during egg laying of the target pests. The need for an application can be based on historical and/or physical monitoring of the site, current season adult trapping, previous experience or other methods. Optimum control will be achieved when applications are made prior to or at egg hatch of the target pests followed by sufficient irrigation or rainfall to move the active ingredient through the turf thatch layer. Consult your State Extension Service for information regarding specific application timing.

Do not apply when the target site is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist.

2. Resistance Management

Zylam 20SG Systemic Turf Insecticide contains a Group 4A insecticide. Insect biotypes with acquired resistance to Group 4A may eventually dominate the insect population if Group 4A insecticides are used repeatedly in the same crop or in successive years as the primary method of control for a targeted species. This may result in partial or total loss of control of those species by Zylam 20SG Systemic Turf Insecticide or other Group 4A insecticides.

To delay the development of insecticide resistance in greenhouse, nursery and interiorscape use sites, strongly consider the following guidelines:

- Do not apply Zylam 20SG Systemic Turf Insecticide or other Group 4A insecticides to consecutive generations of the same insect pest species.
- Do not drench soil media with Zylam 20SG Systemic Turf Insecticide or other Group 4A insecticides more than one time per crop cycle or three months, whichever is shorter.
- Do not make more than two foliar or broadcast sprays of Zylam 20SG Systemic Turf Insecticide or other Group 4A insecticides to a single crop during a two-month period.
- Do not make more than one soil drench and one foliar or broadcast spray with Zylam 20SG Systemic Turf Insecticide or other Group 4A insecticides during a two-month period.
- Base insecticide use on a comprehensive IPM program.
- Monitor treated insect populations for loss of field efficacy.
- Contact your local extension specialist, certified crop advisors, and/or manufacturers for insecticide resistance management and/or IPM guidelines for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact PBI/Gordon Corporation 1-877-800-5556.

3. Mixing Instructions

Zylam 20SG Systemic Turf Insecticide Alone: Add half of the required amount of water to the mix tank. With the agitator running, add the desired amount of Zylam 20SG Systemic Turf Insecticide to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after Zylam 20SG Systemic Turf Insecticide has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Zylam 20SG Systemic Turf Insecticide + Tank Mixtures: Add half of the required amount of water to the mix tank. Start the agitator running before adding any tank mix partners. In general, add tank mix partners in this order: products packaged in water soluble packaging, wettable powders, wettable granules (dry flowables), liquid flowables, liquids, emulsifiable concentrates, and surfactants/adjuvants. Always allow each tank mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all the mixture has been applied.

NOTE: When using Zylam 20SG Systemic Turf Insecticide in tank mixtures, add all products in water soluble packaging to the tank before any other tank mix partner, including Zylam 20SG Systemic Turf Insecticide. Allow the water soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using Zylam 20SG Systemic Turf Insecticide in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label. Do not exceed label dosage rate, and follow the most restrictive label precautions and limitations. Do not mix this product with any product that prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

Compatibility:

IMPORTANT The safety of all potential tank mixes has not been tested on all crops. Before applying any tank mixture not specifically listed on this label, confirm the safety to the target crop.

Zylam 20SG Systemic Turf Insecticide is compatible with most commonly used pesticides, crop oils, adjuvants, and nutritional sprays. However, since it is not possible to test all possible mixtures, pre-test to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with Zylam 20SG Systemic Turf Insecticide. To determine the physical compatibility of Zylam 20SG Systemic Turf Insecticide with other products, use a jar test, as described below:

Using a quart jar, add the proportionate amounts of the products to 1 quart of water. Add wettable powders and water dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for additional required ingredients to the spray tank.

4. Application Procedures and Spray Equipment

Ground Application: Select spray nozzles that will provide accurate and uniform spray deposition. Use spray nozzles that provide medium-sized droplets and reduce drift. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult nozzle manufacturers and/or State Extension Service specialists.

Apply Zylam 20SG Systemic Turf Insecticide using sufficient water volume to provide thorough and uniform coverage. In situations where a dense canopy exists and/or pest pressure is high, use greater water volumes. The use of a spray adjuvant may improve spray coverage. Do not apply under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Applications to turfgrass: Apply Zylam 20SG Systemic Turf Insecticide through conventional spray equipment in a minimum of 1 gallon of finished spray per 1000 sq.ft. Ensure adequate distribution in the treated area using accurately calibrated equipment normally used for application of turfgrass insecticides. Use equipment that 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. Prevent skips by using marker dyes or foam aids.

Restrictions

- Do not graze treated areas or use clippings from treated areas for feed or forage.
- Prevent runoff or puddling of irrigation water following application.
- Keep children and pets off treated areas until spray has dried.
- Do not apply to areas that are water logged or saturated, or frozen, which will not allow penetration into the root zone of the plant.

Minimizing Spray Drift

As with all crop protection products, it is important to minimize off-target movement. Do not allow spray to drift onto adjacent land, crops, or aquatic areas. To minimize spray drift:

1. Make applications when wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 10 mph. Do not apply when wind gusts approach 10 mph.
2. Risk of exposure to sensitive aquatic areas can be reduced by not applying when wind direction is toward the aquatic area.
3. Do not cultivate or plant crops within 25 feet of the aquatic area as to allow growth of a vegetative filter strip.
4. Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
5. Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift and can be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by not using excessive spray boom pressure.
6. Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage. Do not apply more than 10 ft above the crop canopy.
7. For aerial applications, mount spray boom on the aircraft so as to minimize drift caused by wing tip vortices. Use minimum practical boom length and do not use boom that exceeds 75% of wing span or rotor diameter.

5. Turfgrass

Crop	Pest	Product Rate	Remarks
Turfgrasses Residential Recreational Commercial	Mole cricket Southern mole cricket Tawny mole cricket	2.7 lb per acre 1 oz per 1000 sq.ft. [0.54 lb a.i. per acre]	Make application prior to or during the peak egg hatch period. When adults or large nymphs are present and actively tunneling, tank mix with a curative insecticide.
	White grub larvae such as: Annual bluegrass weevil Asiatic garden beetle Billbug Black Turfgrass ataeenius European chafer Green June beetle Japanese beetle May/June beetle Northern masked chafer Oriental beetle Southern masked chafer	2.7 lb per acre 1 oz per 1000 sq.ft. [0.54 lb a.i. per acre]	For optimum control of grubs, billbugs, and annual bluegrass weevil, make application prior to or during egg hatch of the target pest.
	Cutworms Chinchbug Sod webworm	2.7 lb per acre 1 oz per 1000 sq.ft. [0.54 lb a.i. per acre]	For suppression of chinchbugs, make application prior to hatching of the first instar nymphs.
	European Crane-fly	2.7 lb per acre 1 oz per 1000 sq.ft. [0.54 lb a.i. per acre]	

Important Notes:

- Apply in sufficient water to ensure thorough coverage of target area. Use a minimum of 50 gallons finished spray per acre.
- Consult your local State Extension Service or State Extension Turfgrass Specialists for more specific information on timing of insecticide applications.
- For optimal control, apply irrigation if rainfall does not occur within 24 hours after application to ensure movement of the active ingredient through the thatch.
- Do not apply more than a total of 2.7 lb of Zylam 20SG Systemic Turf Insecticide (0.54 lb a.i.) per acre of turf per year.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep pesticide in original container. Store in a cool dry place.

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

CONTAINER HANDLING: Nonrefillable 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. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or 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.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants only that the chemical composition of this product conforms to the ingredient statement given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED. This limited warranty does not extend to the use of the product inconsistent with label instructions, warnings or cautions, or to use of the product under abnormal conditions such as drought, excessive rainfall, tornadoes, hurricanes, etc. These factors are beyond the control of the manufacturer or the seller. Any damages arising from a breach of the manufacturer's warranty shall be limited to direct damages, and shall not include indirect or consequential damages such as loss of profits or values, except as otherwise provided by law.

The terms of this Limited Warranty and Disclaimer cannot be varied by any written or verbal statements or agreements. No employee or agent of the seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

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