



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

**NOTIFICATION****APR 26 2007**

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

APR 26 2007

Dawn L. Walters  
Regulatory Administrator  
The Andersons Lawn Fertilizer Division, Inc.  
D/b/a Free Flow Fertilizer  
P.O. Box 119  
Maumee, OH 43537

SUBJECT: ✓ Applications for Pesticide Notification – Remove NY Restriction/Correct Typos  
✓ The Andersons GC BiCarb Insecticide + Fertilizer EPA Reg. No. 9198-233  
The Andersons BiCarb Insecticide + Fertilizer EPA Reg. No. 9198-235  
Applications Dated April 2, 2007

Dear Ms. Walters:

The Agency is in receipt of your Applications for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above products. The Registration Division (RD) has conducted a review of these requests for their applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The labels submitted with the applications have been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Terri Stowe of my staff at 703-305-6117.

Sincerely,

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

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs



The Andersons, Inc.  
P.O. Box 119 • Maumee, Ohio 43537 • 419/893/5050

2/13

April 2, 2007

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7505P)  
US Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

NOTIFICATION

APR 26 2007

RE: Notification of Minor Label Change  
SUBJECT: The Andersons GC BiCarb Insecticide + Fertilizer  
EPA Reg. No. 9198-233

Per PR Notice 98-10 enclosed is EPA Form 8570-1, an application notifying the Agency of a revision to the labeling for the subject registration. One copy of the revised labeling is enclosed with the additions underlined and marked in blue.

We have made the following changes to the label:

1. Delete the New York state specific statement "Do not apply more than 348 lbs. of this product (0.2 lbs. bifenthrin, 8.0 lbs. carbaryl) per acre per year." This statement is no longer required by New York. The comment letter from EPA had asked that this statement be removed.
2. On page 4, corrected typographical error, replaced "1,000 sq. ft." with "acre" in two instances

If there are any questions or comments regarding this notification, please contact me.

Sincerely,  
The Andersons Lawn Fertilizer Division, Inc.

*Dawn L. Walters*  
Dawn L. Walters  
Regulatory Administrator  
Phone: 419-351-3717  
Email: dawn\_walters@andersonsinc.com

Enclosures

**NOTIFICATION**

**APR 26 2007**



Dawn\_Walters@AndersonsInc.com  
04/25/2007 03:06 PM

To Terri Stowe/DC/USEPA/US@EPA  
cc  
bcc  
Subject Request for Confirmation that NY Approved Removal of Their Restrictions

Dear Ms. Stowe,

In response to your email on April 23, 2007 requesting confirmation that New York has removed specific labeling restrictions for bifenthrin products, please find following an email from Shaun Peterson of the New York State Department of Environmental Conservation outlining their requirements for bifenthrin. They do not require the statement we had on our labels for registrations 9198-233 and 9198-235.

Please let me know if you need further information regarding our notifications removing these statements.

Best Regards,

**Dawn L. Walters**

Regulatory Administrator

The Andersons, Inc.

Phone: 419-351-3717

Email: [dawn\\_walters@andersonsinc.com](mailto:dawn_walters@andersonsinc.com)

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----- Forwarded by Dawn Walters/PMG/Andersons on 04/25/2007 02:56 PM -----

Debbie Ziehr/PMG/Andersons

04/23/2007 03:58 PM

To Dawn Walters@Andersons  
cc  
Subject Fw: New York State requirements for bifenthrin-containing products

Dawn,

I just received the below email from Shaun Peterson with NYDEC. Let me know if this works for the EPA or if you need additional information.

NOTIFICATION

APR 26 2007

Debbie Ziehr  
Regulatory Coordinator  
The Andersons Lawn Fertilizer Div., Inc.  
Phone #419-891-6671  
Fax #419-891-2745  
Email: debbie\_ziehr@andersonsinc.com

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Unauthorized use or disclosure is prohibited by law.

Subject: New York State requirements for bifenthrin-containing products

04/21/07 09:19 AM

Subject New York State requirements for bifenthrin-containing products

Debbie,

Please regard this email as an official correspondence regarding this matter.

In regards to the registration of EPA Reg. No. 9198-233 and EPA Reg. No. 9198-235 in New York State, NYSDEC requested that Andersons remove the statement "Do not apply more than 345 lbs of this product (0.2 lbs, bifenthrin) per acre per year." The placement of the statement in the paragraph with the New York State specific language seemed to indicate that this language was in reference to New York State. The requirement is not in line with official New York State policy in regards to bifenthrin.

The official NYS requirements for bifenthrin are as follows

Turf Use

- 1) Maximum annual application rate for granular applications on turf: 0.4 lbs bifenthrin per year (same as federal requirement)
- 2) Maximum single application on residential use sites: 0.2 lbs bifenthrin per application (same as federal requirement)
- 3) No use on golf courses or sod farms on Long Island.
- 4) Must contain the language "In New York State, the product may not be applied to any grass or turf areas within 100 feet of a water body (lake, pond, river, stream, wetland or ditch) or within 100 feet of any New York State wetland. Do not make a single repeat application of this product if there are signs of environmental damage to wetlands or streams within 100 feet of the turf application."

Ag Use

- 1) For agricultural use- "In New York State, this product may not be applied within 100 ft (using ground equipment) or 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes."

Please contact me if there are any further questions regarding this matter.

Shaun Peterson  
Environmental Chemist I

Pesticide Product Registration Section  
New York State Department of Environmental Conservation  
625 Broadway  
Albany, NY 12233-7257  
(518) 402-8768

**NOTIFICATION**

**APR 26 2007**

6/13

	United States <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
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**Application for Pesticide - Section I**

1. Company/Product Number 9198-233	2. EPA Product Manager LaRocca	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) The Andersons GC BiCarb Insecticide + Fertilizer	PM# 13	
5. Name and Address of Applicant (Include ZIP Code) The Andersons Lawn Fertilizer Division, Inc. d/b/a Free Flow Fertilizer PO Box 119 Maumee, OH 43537 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____  Product Name _____	

**Section - II**

<input type="checkbox"/> Amendment - Explain below. <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - Explain below.
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NOTIFICATION  
APR 26 2007

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)  
 Notification of Minor label change per PR Notice 98-10: removed statement, correct typographical errors. See cover letter for details.  
 This notification is consistent with the guidance of PR Notice 98-10 and the requirements of EPA's regulations at 40 CFR 156.10 and 40 CFR 152.46 and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the guidance of PR Notice 98-10 and the requirements of 40 CFR 156.10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other _____ <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dawn L. Walters	Title Regulatory Administrator	Telephone No. (Include Area Code) 419-351-3717
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Administrator	
4. Typed Name Dawn L. Walters	5. Date 4/2/07	

**RESTRICTED USE PESTICIDE**

**Toxic to Fish and Aquatic Organisms**

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

# The Andersons GC BiCarb Insecticide + Fertilizer

For control of selected surface and subsurface pests on any turfgrass site including golf courses and sod farms and control of pests in and around flower beds, ornamental plantings and around buildings.

*Optional front panel claims:*

- Ideal for Control of Adult Mole Crickets
- Effective for curative treatment of white grubs
- Effective on difficult to control southern chinch bugs
- Patent pending synergistic combination of insecticides
- Broad spectrum combination insecticide
- Contains essential plant nutrients for turf and ornamental maintenance

NOTIFICATION

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**Active Ingredients**

Bifenthrin *	0.058%
Carbaryl (1-naphthyl N-methylcarbamate)	2.300%
<b>Other Ingredients</b>	<u>97.642%</u>
<b>Total</b>	<b>100.000%</b>

\*Cis isomers 97% minimum, trans isomers 3% maximum  
FCAS No. 82657-04-6

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

**SEE BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS**

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

Net Weight XX lbs. (XX kg)  
Covers Up To XX,XXX Sq. Ft.

EPA Reg. No. 9198-233  
EPA Est. 9198-OH-1M, 9198-OH-2B, 9198-AL-001A  
Underlined letter is first letter used in run code on bag

## The Andersons GC BiCarb Insecticide

Net Weight XX lbs. (XX kg)

Covers XX,XXX Sq. Ft.

### Guaranteed Analysis

Total Nitrogen (N) ..... XX%

Available Phosphate (P<sub>2</sub>O<sub>5</sub>) ..... XX%

Soluble Potash (K<sub>2</sub>O) ..... XX%

Plant nutrients derived from:

*For products being sold into states requiring fertilizer metals information::*

Information regarding the contents and levels of metals in this product is available on the internet at <http://www.regulatory-info-ap.com/>

### FIRST AID

**Carbaryl is an N-Methyl Carbamate Insecticide.**

**GENERAL:** Contact a physician immediately in all cases of suspected poisoning. Transport patient to a physician or hospital immediately and **SHOW A COPY OF THIS LABEL TO THE PHYSICIAN.** If poisoning is suspected in animals, contact a veterinarian.

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

**If swallowed:** Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-757-8951 for emergency medical treatment information.

**ANTIDOTE STATEMENT:** ATROPINE SULFATE IS HIGHLY EFFECTIVE AS AN ANTIDOTE. See NOTE TO PHYSICIAN.

**Note to Physician:** Carbaryl is an N-methyl carbamate that inhibits cholinesterase. Atropine is antidotal. Atropine is antidotal. Do not use 2-PAM (pyridene-2-aldoxime methiodide), opiates or cholinesterase inhibiting drugs. Probable mucosal damage may contraindicate the use of gastric lavage.

This product is a pyrethroid. If large amounts have been ingested, milk cream and other digestible fats and oils may increase absorption and so should be avoided.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Wear long sleeved shirt and long pants, socks, shoes and chemical resistant gloves (such as natural rubber). Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Care should be used when applying to avoid fish and reptile pets in/around ornamental ponds. Harmful if inhaled, swallowed, or absorbed through the skin. Avoid breathing dust. Remove contaminated clothing before reuse.

The following Personal Protective Equipment requirements apply to sod farm use only

#### Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

- Long sleeved shirt and long pants



- Waterproof gloves
- Shoes and socks

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.

**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.

**User Safety Requirements:** Applicators and other handlers must wear long-sleeved shirt and long pants, and shoes plus socks. Keep and wash PPE separately from other laundry, use detergent and hot water. Wash thoroughly with soap and water after handling this product, and 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.

**ENVIRONMENTAL HAZARDS**

This pesticide is extremely toxic to fish, aquatic and estuarine 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 run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or when disposing of equipment washwaters or rinsate.

**READ ALL DIRECTIONS PRIOR TO APPLICATION OF THE PRODUCT**

**DIRECTIONS FOR USE**

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

In New York State, the product may NOT be applied to any grass or turf areas 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. Do not apply more than 348 lbs. of this product (0.2 lbs. bifenthrin, 8.0 lbs. carbaryl) per acre per year.

Do not apply by air. Do not apply more than 690 lbs. of this product (0.4 lbs. bifenthrin, 16 lbs. carbaryl) per acre per year. 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 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 Workers 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

- Waterproof gloves
- Shoes plus socks

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to use of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The Worker Protection Standard applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. If watering-in of the granules is necessary, do not allow people or pets on treated areas until the grass or soil is dry. Do not touch treated surface until dry.

**General Information**

This product controls surface and subsurface feeding pests on any turfgrass site (lawns, sod, turf areas) such as, but not limited to: residential and commercial lawns, grounds or lawns around business and office complexes, shopping centers, multi-family and residential apartment complexes, airports, military and other institutions, cemeteries, parks and picnic areas, playgrounds, schools, athletic fields, golf courses and sod farms.

The active ingredients in this product also provide both curative and residual control of listed surface feeding pests.

The regional differences in pest species pressure, timing for optimal control, pest monitoring methods and other particulars for your location will vary, so consult your cooperative extension service for details. Most states have taxpayer-supported internet web sites and other services to provide this very helpful information. Please use and continue to support your local extension services.

**Application Directions**

Apply uniformly over the treatment area with either a broadcast or drop type spreader, avoiding spreaders which will apply product in narrow, concentrated bands. Apply only the specified amount in the following table. Calibrate the spreader before use and check periodically to ensure the equipment is working properly. Avoid overlaps that will increase rates above those recommended. Failure to follow the Directions for Use and all precautions may result in grass injury or poor pest control.

For optimal effectiveness, minimize thatch since heavy thatch will prevent the insecticide from penetrating to the area where insects are feeding. Although not dependent on immediate irrigation for activation, water must carry this material through the thatch. In conditions of drought it is recommended to water in this product taking care to minimize runoff.

Recent research has shown that well-maintained turf is an effective environmental buffer that prevents pollutants from entering our natural water bodies. To help protect these natural resources, please avoid applying product to sidewalks, driveways, roadways, and other impervious surfaces which are adjacent to storm drains. Sweep any misplaced granules back onto the area you are treating immediately after application, since storm drains often empty directly to nearby waterways.

**Timing**

**Surface pests (leaf, crown and thatch inhabiting):** Treat when pests or turf damage symptoms first appear, or when pests are detected by local site monitoring. Best results will occur if the treated area is thoroughly irrigated with water after application.

**Subsurface pests (soil inhabiting):** For best preventative treatment, apply 10 days to 2 weeks after egg-laying activity. As a curative treatment, apply when turf damage is first noted. Local site monitoring is recommended to determine optimal time of application. Contact your local State Extension Specialists for more specific information regarding the timing of applications, and for advice on how and when to monitor pest activity at your location. Some pests may have either single or multiple generations per year, depending on species, weather, and locale.

For best results, irrigate treated areas soon after application, enough to thoroughly wet the underlying soil; this washes the active ingredients down below the turf and thatch, and it encourages the subsurface pests to move upward in the soil profile where they will come in contact with the active ingredients. For best pest control and turf culture, minimize thatch buildup to no more than 0.5 in., using mechanical removal methods as needed.

Do not apply more than 348 lbs. of product per acre (1,000 sq. ft.) (0.2 lb. bifenthrin, 8.0 lb. carbaryl active ingredient per acre) per application on residential use sites (i.e. around private home, apartment buildings, condominiums, non-agricultural outbuildings, non-commercial greenhouses, pre-schools or day care facilities). May be applied up to 690 lbs. of product per acre (1,000 sq. ft.) (0.4 lb. bifenthrin, 16 lb. carbaryl active ingredient per acre) per application on non-residential use sites (i.e. around institutional, public, commercial or industrial buildings; parks; recreational areas or athletic fields).

**Application Rates**

Pest	Amount of product
Armyworms (larvae of Armyworm, Fall Armyworm, Lawn Armyworm, and striped Grassworm), Cutworms (larvae of Black Cutworm, and Bronze Cutworm), Sod Webworms (larvae of Bluegrass Webworm, Larger Sod Webworm, Western Lawn Moth Cranberry Girdler, Tropical Sod Webworm, and Burrowing Sod Webworm)	87 lb./acre (2 lb./1,000 sq. ft.)
Annual Bluegrass Weevil ( <i>Hyperodes</i> ) (Adult), Adults of Bluegrass Billbug, Hunting Billbug, Phoenician Billbug and Denver Billbug, Black Turfgrass <i>Ataenius</i> (Adult), Mealybugs, Leafhoppers, Chinch Bugs (nymphs and adults of Hairy Chinch Bug, Southern Chinch Bug, and Buffalograss Chinch bug), Chiggers, Crickets, Darkling Ground Beetles, Earwigs, Essex Skipper, Fire Brats, Grasshoppers, Silverfish, Spittlebugs Springtails	87-174 lb./acre (2 - 4 lb./1,000 sq. ft.)
Ants, Centipedes, Fleas (Adult), Flea (Larvae), Millipedes, Ticks, Deer Ticks, American Dog Ticks, European Crane Fly, Imported Fire Ant (Adults), Mole Cricket (Adult), Mole Crickets (nymphs and adults of Tawny, Southern, Shortwinged, West Indian (Changa), Oriental (formerly African) and Native (northern) Mole crickets)	174 - 348 lb./acre (4 - 8 lb./1,000 sq. ft.)
White Grubs (larvae of Japanese Beetle, European Chafer, Northern Masked Chafer, Southern Masked Chafer, Oriental Beetle, Asiatic Garden Beetle, May/June beetle ( <i>Phyllophaga</i> spp.), Bluegrass billbug, Hunting Billbug, Phoenician Billbug, Denver (Rocky Mountain) Billbug, Green June beetle, Black Turfgrass <i>ataenius</i> , and <i>Aphodius</i> ) and Annual Bluegrass weevil ( <i>Hyperodes</i> weevil) and European Crane fly larvae,	preventative: 87-174 lb./acre (2 - 4 lb /1,000 sq. ft.) curative: 174 - 348 lb./acre (4-8 lb /1,000 sq. ft.)
Pillbugs (Sowbugs)	348 lb./acre (8 lb./1,000 sq. ft.)

**Armyworms, Cutworms, Sod Webworms:** Apply when monitoring or damage symptoms for the larval stages of these pests warrant. For best results, the treated area should be irrigated immediately after application with up to 0.1 inches of water to activate the insecticide.

**Annual Bluegrass Weevil (*Hyperodes*) (Adult):** Treatment should be made to control the adult weevils as they migrate from their overwintering sites such as roughs and debris under ornamental plantings, shrubs and trees, especially White Pines, and move into grass areas. This movement generally begins when Forsythias bloom and ends when flowering dogwoods are in bloom. There are often two generations in New York. Contact your State Cooperative Extension Service for more specific information.

**Billbugs**

**(Adult/preventative):** In temperate regions, apply when adult billbugs are first observed during April and May. These spring applications targeting billbug adults will also provide control of overwintered chinch bugs. When possible, controlling the mobile adult stage helps prevent turf damage

later in the year from the larvae. Consult your State Cooperative Extension Service for information on degree days, monitoring, and timing in your region.

**(Larvae/curative):** This damaging stage may be found in cool season or temperate areas from May into October. The Hunting and Denver species overwinter as larvae, and Hunting Billbugs breed continuously in the Deep South. While most Billbugs in cool season areas typically have one generation per year, due to multiple generations in warmer regions, and extended egg-laying periods throughout their ranges, apply when damage from this stage is noticed. Irrigate thoroughly after application, enough to wet the underlying soil, for best results.

**Black Turfgrass Ataenius (Adult):** Apply treatments during May and July to control both generations of adults. The May application should be made at the same time as the full bloom stage of Vanhoutte spiraea (*Spirea vanhouttei*) and Horse chestnut (buckeye tree) (*Aesculus hippocastanum*). The July application should coincide with the blooming of Rose of Sharon (*Hibiscus syriacus*).

**Chinch Bugs:** These pests infest the base of the plant and are usually found in the thatch layer. All three stages, eggs, nymphs and adults, are may be present at the same time in late season temperate and southern locations. Treat when monitoring or damage indicates the presence of populations above damage thresholds. Watering the treated area with up 0.25 inches immediately after application will result in quicker control. Higher application rates may be required to control both nymphs and adults during the summer or in warm season turf areas, and to provide extended residual control

**Flea Larvae:** These larvae develop in the soil and shady areas. Irrigate the treated area with up to 0.5 inches of water immediately after application.

**Imported Fire Ants:** The best control will be reached by a combination of broadcast applications and mound drenching. If soil is not moist, then it is important to irrigate before application. Apply 4-8 lbs per 1,000 sq. ft. to control foraging fire ants, high rates provide longer residual control. Use Andersons Golf Course Prosect for mound drench treatments

**Mole Crickets**

**Adults:** Achieving acceptable control of adult mole crickets may be difficult because preferred grass areas are subject to continuous invasion 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. Use Andersons Golf Course Fertibait with bifenthrin for Mole Crickets for excellent control of the active adult stage of this pest.

**Nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately before 1-2 weeks past 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 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.

**Ticks:** Do not make spot applications. Treat the entire area where ticks may occur. The higher application rate might be needed if heavy leaf litter or dense ground cover exists. Retreatment might also be necessary due to animals reintroducing new populations. Do not allow public use of treated areas during application.

**Deer Ticks:** These ticks have a life cycle that ranges over a two year period and involves four life stages. Treatments should be applied in mid- to late-spring to control larvae and nymphs that are present on the soil and leaf litter.

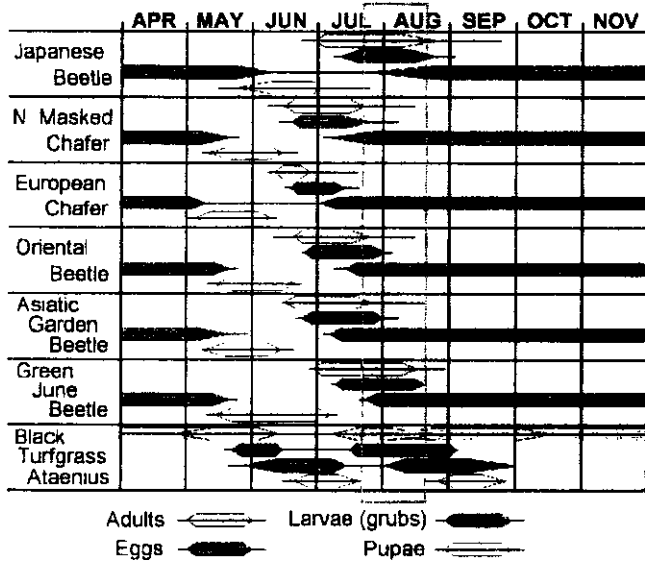
**American Dog Ticks:** These ticks tend to gather along paths or roadways where humans are likely to be found. Treatments should be made from mid-spring to early fall to control larvae, nymphs and adults.

**White grubs:** Preventative applications are made 10 days to 2 weeks following peak adult flight activity as determined by local site monitoring, or as recommended by local cooperative extension agents. Curative applications should be made when grubs are feeding near the soil surface, usually during late March through May or July to early September, when damage symptoms first become evident, or as recommended by extension. See the *Comprehensive Turf Insect Control* section below for more information on controlling grubs as well as surface pests. For best results, irrigate treated areas soon after application, enough to thoroughly wet the underlying soil. Use higher rates in areas of heavy pressure and where thatch is present in excess of 0.5 in. thickness. Reduce thatch by mechanical means for best turf quality and better control of grub species..

**European Crane Fly:** Adults emerge from the soil to lay eggs from late August to mid-September. In areas with historic problems, an October treatment can be used to control this pest at this early, most vulnerable larval stage, which will avoid damage the following year. Otherwise, monitor turf areas in winter and early spring when there is a consistent warmer period, treating when the larvae are present. Discontinue monitoring and control measures in early May, when these pests pupate and stop feeding.

**Comprehensive Turf Insect Control**

The "multiple target principle" of insect control utilizes strategically timed applications to manage multiple insect pests with minimal pesticide applications. For example, this product may be used as a curative application for white grubs in early August for cool season turf areas to control most white grub species. As the white grub life cycle chart for the cool season turf regions below illustrates, application timing in the indicated bracket area will control many of the grub species when they are at their most vulnerable, soon after egg hatch when grubs are small. During this period, adequate grub control can be obtained at 4 pounds per 1,000 sq. ft. in all but the most extreme situations (heavy thatch, heavy pressure), and the economical 2 pounds per 1,000 sq. ft. can handle most situations, especially when used in conjunction with early applications (see below).



**Chart: optimal cool season white grub application timing**

In addition, early applications to control surface pests in mid-April too early or mid-May will also help control white grubs which have moved up as the soil warms into the surface soil, just below the grass and thatch. This application timing will reduce grub pressure from the over wintered grub generation, and can manage populations of turf surface pests as well.