Studies suggest that both Denver and Hunting billbugs have adult females that lay eggs over a two to three month period with the early larvae being able to complete development and begin contributing more eggs to the end-of-the-season populations. A single application of Arena will eliminate the early larval populations and the residues within the soil-thatch zone will take out any late billbug larva that result from adults wandering in from surrounding, untreated turf areas.

Denver and Hunting Billbugs
Denver and Hunting billbugs are a growing problem in the Western U.S. Unlike the Bluegrass billbug, these species of billbugs overwinter as both adult and mature larva. This means there is potential for early-season species of billbugs overwinter as both adult and mature in the Western U.S. Unlike the Bluegrass billbug, these Denver and Hunting billbugs are a growing problem. Arena is looking like a promising option because of its rapid activity. So far, Arena is looking like a promising option because of its rapid activity. Researchers have been looking at different control options such as Merit and Arena. So far, Arena is looking like a promising option because of its rapid activity.

Preventive White Grub Control
White grubs are a major insect pest for which LCOs receive customer complaints, so preventive treatments in the spring are a necessary precaution. If left unchecked, white grubs can severely damage turf by feeding on plant roots and tunneling through the soil. By making an insecticide application in May with a product such as Arena Insecticide, many LCOs can gain season-long control of white grubs.

“Arena’s residual allows for continued soil activity 120–180 days after application,” said Dr. David Shetlar, associate professor with The Ohio State University. “This helps control adult white grubs by getting the material to their feeding sites in the soil.”

Dispelling Lepidoptera, Neonicotinoid Misconceptions
A common myth is that ALL neonicotinoids are not effective on lepidopterous insects (caterpillars being one example). The misconception is founded on early work effective on lepidopterous insects (caterpillars being one example). The misconception is founded on early work especially early in the season. But when I tested Merit against first and second instar larvae it actually did pretty well,” Shetlar said. “When I tested Merit against first and second instar larvae it actually did pretty well,” Shetlar said. “But when we ran the tests at the fourth or fifth instar Merit didn’t have much effect on these larger caterpillars.” Shetlar also tested Arena against turf caterpillars when it became available.

“We were absolutely shocked it killed the bigger caterpillars,” Shetlar said. “So, while many of the neonicotinoids are not good caterpillar controls, at least there is Arena which has significant caterpillar activity.”

Meridian also controls some turf caterpillars, but, head-to-head, Arena has better knockdown activity, Shetlar said.
Maximum Results (continued from page 1)

For this reason, Shetlar recommends that LCOs making preventative treatments for white grubs do so in May so they can also control these surface-feeding insects at the appropriate life cycle stage.

“If you wait until June to make an insecticide application for white grub control, you are too late for billbug, chinch bug and sod webworm control,” Shetlar said. “If you time that application in early-to-mid-May, you can knock out these surface-feeding insects and be done controlling them for the season.”

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50 WDG oz /A with application dates

Billbug Larval Control

Percent Control

Arena 50 WDG 6 oz /A

Trophic 59 oz /A

Scimitar GC 10 oz /A

Dr. Lance Osborne with the University of Florida, foliar sprays with Safari® Insecticide or Conserve® controlled damage is critical to success because some ornamentals feed on a huge variety of common landscape shrubs, causing severe distortion of new growth, defoliation and, in some cases, plant death. In central Florida, LCOs now consider chilli thrips their most significant ornamental insect pest.

Chilli thrips are also causing damage to commercial strawberries and threaten many other agricultural crops. As a result, a national task force has been created to confront this problem.

University researchers have determined that several different insecticides will control chilli thrips; however, applying insecticides before thrips cause significant damage is critical to success because some ornamentals recover very slowly from injury. In a trial conducted by Dr. Lance Osborne with the University of Florida, foliar sprays with Safari® Insecticide or Conserve® controlled chilli thrips up to 28 days after application.

2008 Insect Watch!

Each season brings new insect challenges for LCOs. The following are insect problems the industry will be buzzing about in 2008:

Chilli Thrip

Dr. David Shetlar, associate professor with The Ohio State University, has looked closely at the LD50s of turf insecticides’ modes of action to determine the toxicity of the materials. Based on his work, Arena has a very low toxicity level.

Lower insecticide toxicity can mean added benefits for LCO operations, such as fewer non-target effects and increased employee safety.

“If you are the applicator, you are handling the mixing of the products and the application all day long for five to six days a week,” Shetlar said. “From an employee-safety standpoint, I would rather use the less toxic material and Arena would obviously fit into that.”

To learn more about Shetlar’s work with insecticide LD50s, visit the presentations on his site at: www.osubugdoc.com.

Application Timing Flexibility

For LCOs who don’t make a preventative insecticide treatment, a product with application flexibility, such as Arena, provides “insurance” in the event of late-season white grub activity.

When making a late-season, or even a rescue, treatment, quick insect knockdown is key, according to Shetlar.

One of the major differences between Arena and other neonicotinoids is its speed of activity,” Shetlar said. “We have applied Arena on September 15 for white grub control and seen it kill the insect in five to seven days. Merit is much slower.”

Todd Mayhew, Valent Professional Products field market development specialist, notes that Arena’s wide application window is a big benefit to the LCO market.

“Since Arena can be applied as a preventative or curative treatment from May through September, LCOs have more flexibility when treating for white grubs,” Mayhew said. “Our data shows consistent control when Arena is applied up to September.”

Arena White Grub Timing Study

Percent Control

0.0 0.0 20.0 20.0 80.0 80.0 100.0 100.0 0.0 0.0 20.0 20.0 80.0 80.0 100.0 100.0

Japanese Beetle Japanese Beetle Northern Masked Chafer Northern Masked Chafer

Note: Be sure to check that the neonicotinoid product applied at the beginning of the season does not contain a pyrethroid. Several combination products on the market contain low rates of a pyrethroid.

Chinch Bug

LCOs in Florida, particularly along the Gulf Coast, should watch out for pyrethroid-resistant chinch bugs this year. The development of resistance is due to overuse of the same type of insecticide each season.

University recommendations for controlling resistant chinch bug emphasize chemistry rotation. An example of an effective control program is:

1. Apply a neonicotinoid such as Arena in late April or early May to control chinch bugs that have overwintered. In University of Florida trials, one application of Arena has provided 8-10 weeks of control of southern chinch bug.

2. If needed, come back with a pyrethroid in June or August to knock down the chinch bug population.

Crane Fly

Recently, there has been increased crane fly activity in New York and Washington. These flies can damage turfgrass—both the soil and surface—very rapidly.

(Continued on page 4)
Maximum Results (continued from page 1)

For this reason, Shetlar recommends that LCOs making preventive treatments for white grubs do so in May so they can also control these surface-feeding insects at the appropriate life cycle stage.

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Crane flies originated in Canada and have been moving into the Northern tier of the United States, where cool season turf is grown. Researchers have been looking at different control options such as Merit and Arena. So far, Arena is looking like a promising option because of its rapid activity.

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Denver and Hunting Billbugs. Photo courtesy of D. Shetlar

Timer Your Insecticide Program for Maximum Results

As lawn care operators (LCOs) are preparing for their busiest season, insect control is top-of-mind. May through September is peak timing for insect activity, and it is crucial for LCOs to stop such insects as white grubs, chinch bugs, billbugs and sod webworms before they are able to damage customers’ lawns.

Preventive White Grub Control

White grubs are a major insect pest for which LCOs receive customer complaints, so preventive treatments in the spring are a necessary precaution. If left unchecked, white grubs can severely damage turf by feeding on plant roots and tunneling through the soil.

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Controlling Surface-Feeding Insects

Though white grubs are the number one turf insect, they are by no means the only insect problem for LCOs. Surface-feeding insects such as chinch bugs, billbugs and sod webworms can also cause significant turf damage, especially early in the season.

Dispelling Lepidoptera, Neonicotinoid Misconceptions

A common myth is that ALL neonicotinoids are not effective on lepidopterous insects (caterpillars being one example). The misconception is founded on early work with Merit for black cutworm and sod webworm control.

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For more information, contact your local Valent territory manager:
- Territory Manager Name
- Territory Manager Phone Number
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Dispelling Lepidoptera, Neonicotinoid Misconceptions

Vanishing Caterpillar. Photo courtesy of Dr. David Shetlar, The Ohio State University

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**Release of this article is pending NY registration. Check with www.valentpro.com or call 800-89-VALENT (898-2536) for current registration status.**

The Ohio State University

Masked Chafer Life Stages. Photo courtesy of Dr. David Shetlar, The Ohio State University

Based on Shetlar’s studies, May applications of neonicotinoids with residual activity not only control adult white grubs but also help control the first instar, which is usually between late July and early August.

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