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Brown patch is no match for a Rubigan® tank mix.



SUMMER

(June-August)



Chinch bug damage usually first appears in dry periods of June. During wet seasons, chinch bug damage is less severe. Billbug grubs are in the soil, and can be treated in June. Check turf areas where adult billbugs were active in the spring.

Adults of most grub species peak in June and "new generation" grubs are usually present by mid-August. During the drought years beetle emergence was delayed, and grub survival less.

August grub treatments may need to be preceded by irrigation if drought conditions exist. The moisture moves the grubs closer to the surface and contact with the insecticide. This does not replace irrigation after treatment.

Green June beetles emerge over a long period during summer and the grubs may have to be treated in some areas more than once. Remember, lower rates are usually very effective in controlling green June beetle grubs. However, the fact that the grubs surface to die is a nuisance in itself.

Mole crickets can be effectively controlled in most areas during June and July. Later treatments become less effective. Residual treatments are most effective if timed within six weeks after first observed hatch.

Sevinol sprays are effective on newly-hatched nymphs. Baits are most effective in most areas from July through August. Orthene sprays are usually most effective

after six to eight weeks from first observed hatch.

Pre-treatment irrigation is a "must" because it encourages mole cricket activity nearer the soil surface.

Sod webworms may damage warm season grasses severely during late June through August. Infested turf should be treated two weeks after peak moth flights in order to control hatching larvae.

Tropical sod webworms can be controlled best with registered formulations of B T. (Dipel).

Area treatments for fire ant control can still be effective in June unless drought conditions exist. Mound treatments are most effective if timed early or late in the day. Spittlebug damage from nymphs feeding deep in the turf is usually first noticeable in June and July.

The progression of symptoms resembles chinch bug damage-yellow spots that brown and die. Unlike chinch bug damage, yellow spots from spittlebug feeding usually first appear in shady areas. Within these areas masses of "spittle" containing cream-colored nymphs can be found deep in the turf.

Adult spittlebugs are especially attracted to Japanese hollies, and may move from these shrubs to the turf. All common warm-season turfgrasses are susceptible to damage, and damage was also reported on lawn fescue in 1989.

Fall armyworms are reported along coastal areas by late June or July most years. Bermudagrasses are preferred, although damage is usually not permanent.

Grasses infested with ground pearls should not be allowed to suffer from drought stress. These scale insects contribute to the decline of turf that is further stressed by such factors. Ground pearl treatments have not been effective.

FALL

(Sept.-Oct.)



Control in the fall is often complicated by such factors as hot, dry, conditions; slowed turf recovery; and larger, more difficult-to-control insect pests.

Sob webworms and fall armyworms are best controlled earlier in the fall. Overwintering sob webworm larvae are extremely difficult to control in late September and October.

Treatment of overlapping generations of thatch-dwellers such as chinch bugs and spittlebugs may result in less effective control of existing populations.

Soil insects such as grubs, mole crickets and fire ants are less active near or on the soil surface during dry fall weather. Irrigating turf before and after treatment can be essential for effective control.

Mole cricket dispersal flights take place in the fall. This complicates fall treatment, and spot treatment with Orthene or Triumph (where label permits) may be necessary.

Once rains begin, use baits, followed by mound treatments, in areas heavily infested with fire ants.



Areas that are heavily infested with fire ants require broadcast treatment, the author says.

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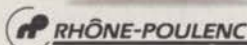
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LATE WINTER

(Nov.-Dec.)



Billbug and chinch bug adults may become active in March some years. Chinch bugs prefer varieties of St. Augustinegrass (except Floratam in most extreme southern areas). Billbugs prefer zoysias and bermudagrasses.

Treat infested turf during mid-day when chinch bug and billbug adults are most active. Treatment at this time can prevent population build-up and turf damage in June and July.

Late season reinfestation may occur from unmanaged areas. Evidence of "varmint" digging—armadillos, skunks, raccoons—may indicate grub or mole cricket activity. Generally, treatment at this time is "second best" for these pests.

Grubs often reinfest the same areas, and can be effectively controlled in the smaller, more susceptible stage in middle to late summer. Mole cricket nymphs are easier to control in June than the overwintered nymphs and adults are at this time.

New technology promises greater applicator and environmental safety.

Areas of grub or mole cricket activity can be "mapped" now and targeted for monitoring and treatment later. Warm season grasses usually recover from spring damages. Grub-infested cool season grasses may have to be treated before grubs pupate in order to reduce further damage before the turf enters summer dormancy.

Usually, Mole cricket mating flights begin in March.

LM



More than \$40 million is spent annually on mole cricket control in Florida. Still, late-season damage remains a common site on southern landscapes.

Cultural practices are important weapons when battling insects

The following is a brief look at several cultural practices you can employ to reduce pest populations in turf areas.

Dethatching: Follow extension recommendations for specific turfgrasses. Thatch control increases movement of insecticides through turf and decreases moisture, which is essential for spittlebug development.

High pressure liquid injection: HPLI (1500-2000 psi) is a new technique whereby lower rates of certain insecticides are being used to control mole crickets and grubs with reduced surface residues.

Mapping: Initially done for grub treatments in northern Alabama, this procedure has also proven successful in reducing area treated and pesticide usage in mole cricket control. Areas of overwintered populations are located and marked on a map of the turf site (such as golf course fairway maps, lined football fields and home plant profile map). These areas are then treated when the more susceptible "new generation" insects are present, before visible turf damage appears.

Monitoring: This procedure is designed to verify the presence of certain pests or pest stages. Examples include soap flushes, which can be used to detect the presence of

cutworms, fall armyworms, sod webworms, mole crickets and green June beetle grubs. Flushes are best done in late May. Irrigate the area afterward to prevent scalding.

Another method is to cut a square foot of sod on three sides, fold back, shake turf and count the grubs present.

A third practice is to cover a plug of turf with water and count the chinch bugs that float to the surface.

Plant selection: Choose plant varieties that are less-susceptible to insects present in your area. For example, chinch bug-resistant varieties of St. Augustinegrass, endophyte-infected fescues and ryegrasses resistant to surface feeders. Japanese hollies planted near centipede grass lawns make an ideal setup for spittlebugs. Choose a "less-deadly" combination.

Pretreatment irrigation: Soil insect pests including grubs, mole crickets and fire ants are more active in moist soil. Watering before treatment of mole crickets is essential. Watering before grub or fire ant treatments during drought can improve control. These pests move closer to the surface in response to moisture and therefore make contact with the insecticide.

—Dr. Cobb □



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Lawn care operators in the Northeastern United States are likely to see more gray and pink snow mold this spring. Heavy winter rains and mild temperatures are to blame (photo courtesy of DowElanco).

IN WINTER'S WAKE

Depending on where you live, winter gave you a good head start or added a few wrinkles to your spring regimen. So what else is new?

by Will Perry, managing editor

One of the most unique aspects about companies in the green industry is that they can have so much *and* so little in common. While all seek the most lush turf, the healthiest ornamentals, and the most desirable landscape, the methods and species used to achieve each vary greatly.

The point becomes particularly obvious this month when companies coast to coast roll up their sleeves to tackle their clients' properties. In some parts of the country, Old Man Winter rolled out the red carpet by providing mild temperatures and adequate moisture. Yet in other areas, he's set the stage for adversity by holding back much-needed snowfall or dumping heavy rains.

LANDSCAPE MANAGEMENT talked to lawn care operators (LCOs) across the country to see whether the weather was friend or foe this winter.

Too much, too little

The two areas of the country that seem to have felt the greatest impact from this year's winter did so for opposite reasons. In the Great Lakes/

Northeast region, excessive moisture during January and February have increased the likelihood of disease problems, while in the coastal Southwest the lack of rainfall has fueled concern about water rationing programs returning this spring.

The winter in the Northeast was characterized by heavy rains and mild temperatures. Consequently, LCOs there are expecting gray and pink snow mold problems, especially on perennial ryegrass and annual bluegrass in low-lying, shaded and/or poorly-drained areas.

"We did see a lot of pink snow mold, especially in areas where the snow lingers on and doesn't melt quickly," says John Bria of Alpine Lawn Care in Brewster, N.Y., after conducting initial site surveys in late February. "It can cause a problem with the first scheduled pre-emergent treatment because a lot of landscapers plan seeding at this time. We have to be especially careful when we go out in April with our pre-emergents or our efforts will be counter-productive. We're going to have to be aware of where they're

doing their seeding."

Bria recommends treating snow mold mechanically. "We physically rake the areas out. It usually doesn't take much physical effort. Then we just broadcast seed with something high in perennial ryegrass."

In nearby Venetia, Pa., Pat Raffaele, co-owner of Lawn Management, Inc., offers similar suggestions to her clients with snow mold problems. "We suggest they rake it, thereby avoiding fungicide treatments. You don't always need them. We would rather see people do things culturally and spend their dollars on aeration and liming instead of fungicide treatments."

Raffaele is one of several LCOs to note that customer education campaigns about the benefits of aeration are reaping springtime dividends. She says that 70 percent of her clients receive aeration annually.

"A good number of our clients are members of country clubs so they're familiar with aeration and its benefits," she notes. "Some clients are interested in aeration twice a year. For them we also offer fall aeration in

On Some Lawns, Grubs Just Aren't a Problem.



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combination with liming." Raffaele points out that her competitive price for aeration, \$10 per 1,000 sq. ft., is attractive to customers.

Bria said he prefers fall aeration because root activity is greatest then. For his clientele, aeration's expense makes it a luxury item.

Selling aeration

"We promote aeration the way it ought to be promoted," says Bria. "If you have a thatchy turf that is definitely cause enough to incorporate aeration. We do not push the issue on a lawn that may not need it. It's just something we offer when we encounter a lawn that has serious problems with thatch. We do not market it as an alternative to chemical applications because it isn't an alternative."

Norman Culbertson of Agreeen Lawn Service, Inc. in Mt. Morris, N.Y., will do some aeration this spring but more in the fall. "I'm still not convinced that we don't let crabgrass come up through those doggone holes," says Culbertson. "People say no but I'm not convinced that's true."

Culbertson was pleased to report that public outcry over chemical use has been negligible this winter. "There's not quite as much controversy as far as chemicals go. I think that will make things easier," he says.

Transition zone

Last year lawn care operators in the transition zone enjoyed weather conducive to good turf growth, except some summer heat and humidity that brought on significant brown patch problems.

The transition zone underwent an unusual winter in '89-'90 however, as severe low temperatures in December gave way to near record-high temperatures in January and February. The overall mild winter allowed tall fescue to green up earlier, which sent crews into the field two to three weeks ahead of schedule.

"The grass is actually growing now [March 1], a full month ahead of schedule," reports Clarence Waskey Jr., of Lawn Doctor-Chesterfield in Richmond, Va. His first of two spring pre-emergent applications was already under way, yet it all evens out in the end. "We didn't get a lot of fertilization done until early January because of the heavy snowfall we got in early December," he adds.

Early green-up

"We've had bermudagrass greening up now since February, which is entirely too early," says Barry Wynn, president of Wynn's Intensive Lawn Care in Winston, Ga. "We don't have

any problems with that. It would be just fine if we didn't get another frost. But each time it kills the grass it makes it that much thinner when it finally does come in. We already have a lot of people calling, wanting us out there and we have to try to get to them."

Turf in the transition zone, particularly bermudagrass and zoysiagrass, may experience some late-winter frost damage, says Wynn.

"There's nothing we can do. We try to watch our nitrogen applications this time of year. Once we feel it has finally warmed up we go back in there



LCOs say the amount of aeration they perform is directly related to how well they educate customers.

with a healthy application of nitrogen."

Tim Haines' National Turf, Inc. employees were in the field by mid-February instead of the typical March 1 start. His Newport News, Va.-based company has promoted semi-annual aeration for the past 16 years as an environmentally sound method of reducing the compaction problems associated with the area's heavy clay soils.

"When I take on a client they understand that their lawn is mine," says Haines. "All they have to do is water and mow it and we take care of the rest."

Haines prefers slice and spoon aeration to core aeration because the former leaves the turf looking better. Total lawn renovation, when needed, is also recommended in the spring, says Haines.

Northwest and Plains

Reports from the Great Northwest and Plains states indicate that the winter of '89-'90 appeared "normal."

At presstime, there were mild concerns about a lack of moisture, but many felt late-season snow and rains were likely.

"It's been dry, but hopefully it will catch up this spring with a big wet snow," says Richard J. Arnwine of Nitro-Green Professional Lawn and Tree in Casper, Wyo. "That's usually what happens in Wyoming. We don't have a whole lot of snow-pack as far as I can see, but it's not a crisis yet either."

"We'll just have to do the best we can. As far as moisture content goes, it's always a problem but last year it got to be serious for a bit and then we got some rain. That's one thing about dealing with the weather...you don't have any control over it."

Brad Culver, of Nitro-Green in Helena, Mont., says the disease activity that posed problems last year aren't expected this spring.

"We'll have to wait and see and then adjust."

"You know last year we had so much snow and cold weather that we were really late getting started. And with all our add-on services like maintenance, power raking, and the like, we were way behind," says Culver. "But I think this year we've got spring weather early."

Culver says customer education and the lack of topsoil in Montana has made aeration "a big service" for his company. "The spring months are big ones for aeration. It's steady all through the summer months."

Southwest drought

In the Southwest, concerns about inadequate rainfall remain. While water levels were described as "normal" in Arizona, southern California LCOs said a third year of light winter rains will make spring water rationing likely.

For the second straight year, the skies above El Paso denied rainfall to the bermudagrass below. "We haven't had a decent rainfall since last June, but that's typical for us," says Vern Autry of Treelawn Corp. "The good 'ol common and hybrid bermudas will handle that."

Renovation is a year-round project, said Autry, except for the hottest summer periods. "We're trying to get people to cut down on the size of their lawn, which is why we're into landscape renovation as well," he added. "We want them to get in some extra brickwork or drought-tolerant shrubs, things of that type."

It appears that yet again the green industry is defying age-old cliches. We talk about the weather and do something about it! **LM**