

# ask the expert

BY BALAKRISHNA RAO

## Tree dieback

**On one of our properties a number of oak trees and a few conifers show various degrees of decline and dieback.**

**Any idea what may be the problem?**

— MARYLAND

A general tree decline and dieback can often be attributed to a root disorder, root damage or a root dysfunction.

Begin your inspection by checking the base of the tree for proper root flare. If you don't see the flare, that is an indication of fill damage, because of either excess soil and/or mulch. This would require root crown excavation using a shovel. Dig the soil near the base of trunk and gently tap the bark. If it sounds hollow or if you find any evidence of a whitish fungal mycelial growth (rhizomorph), this indicates *Armillaria* root rot. In conifers, look for a whitish fungal mycelial rhizomorph while performing root crown excavation. Whitish mycelial growth suggests *Armillaria* root rot caused by *Armillaria* sp.

If you have many trees to examine, consider using compressed air or high-pressure water to excavate.

In addition to a white mat of fungal mycelium under the bark or in the root collar, the infected tree's foliage will discolor and drop. As a first sign of disease, infected conifers will often exude resin from their roots and base. As the fungus matures, it produces clusters of honey-colored mushrooms at the tree's base. These mushrooms are not fused, but grow in a clump and have a characteristic ring on the stem below the cap. The cap is brownish at the top and produces a whitish spore at the bottom.

The shoestring mycelial rhizomorph

may extend about 4 ft. to 5 ft. high on trunks of trees. By that time, the tree usually dies because of restricted water and nutrient translocation.

*Armillaria* sp. can enter the tree through fungal spores, rhizomorphs or by root graft. Once inside, it can cause rot or decay of roots eventually killing the tree. Later, rhizomorph grows out into the soil from infected plant issues.

To manage *Armillaria* root rot, detect the presence of infection as evidenced by the whitish rhizomorph. If a large portion of the trunk is infected, remove the tree promptly to avoid hazard. If a small area is infected, barktrace the infected tissue and let it air-dry. Remove excess soil and put it back before cold winter temperature occurs. There are no fungicides to manage this.

This disease is associated with stress. Reduce exposure to extremes in moisture and/or temperature. Often, excess moisture around the base of the trunk is a major predisposing factor. Keep the mulch cover 2-in. to 3-in. thick and about six inches away from the trunk to avoid damaging sensitive bark and cambium at the root collar area. Provide proper watering, mulching, fertilizing and pest management.

## How does Mach 2 stack up?

**How does Mach 2 perform compared to Merit for grub control?**

— MICHIGAN

Mach 2 from Rohmid Corp. is a molt-accelerating compound that speeds up a grub's molting process (see "Insecticides a la mode" story on page 66). Ingestion causes immature insects to undergo a pre-

mature molt and die. It affects the natural metamorphosis, and uses halofenozide as its active ingredient. It controls all white grubs, cutworms, sod webworms and armyworms and comes in spray, granular and fertilizer formulations for use on turfgrass. Rohmid claims that it will provide season-long control of grubs, and can give three to four weeks of residual control for surface feeding insects. One benefit of Mach 2 is that there is no need for immediate watering.

Because of its preventive and curative activity, it can be applied early like Merit, or later as a rescue curative treatment.

Mach 2 performed well for controlling sold webworm and black cutworm, performing equal to Sevin in university trials. Mach 2 applied in May before eggs are laid, or in June when eggs are laid, provided 100% control of European chafer in university trials. University of Nebraska scientists found that Mach 2 resulted in 79% control as compared to 58% control for Merit of European chafer when applied against second instar grubs. At this stage, grubs feed actively and can cause extensive damage. In this situation, consider using other insecticides such as Dylox or Oftanol.

Mach 2 is not known to be affected by pH hydrolysis or enhanced bacterial degradation. Merit and Mach 2 provide similar results for all white grub and turfgrass insect management. Read and follow label specifications for best results.

Manager of Research and Technical Development for the Davey Tree Expert Co., Kent, Ohio

**SEND YOUR QUESTIONS TO: "Ask the Expert" Landscape Management; 7500 Old Oak Blvd.; Cleveland, OH 44130, or email: [sgibson@advanstar.com](mailto:sgibson@advanstar.com). Please allow two to three months for an answer to appear.**



# products

TECH CENTER

## Deer-terrent

Benner's Gardens believes it has the answer to keeping pesky deer away from precious plants: a virtually invisible mesh barrier that easily attaches to trees or posts. David Benner, retired professor of ornamental horticulture, invented



the eight-foot high polypropylene fence to protect his own plants, and has had positive results. The lightweight, high strength fencing can hardly be seen and doesn't detract from the appearance of the property. Fencing accessories include a nylon guide cable, high-tensile reinforcement wire, Stanley hogringer staple gun, corner post braces and a rabbit/groundhog barrier.

For more information contact Benner's Gardens at 800/753-4660 or [www.bennersgardens.com](http://www.bennersgardens.com) / circle no. 250

## Hard workin' utility vehicle



E-Z-GO Textron's new workhorse ST 480 features an 800-lb. payload capacity, 48-in. load bed and a 16-hp., 4-cycle 480-cc twin cylinder Vanguard V-twin engine, allowing the vehicle

## Wide open grass maintenance

Land Pride says its new 35 Series 3-section rotary cutter is perfect for wide open grass maintenance. It features a 15,000 fpm blade tip speed for a clean cut in material up to 1 1/2-in. diameter. Standard stump jumpers and heavy-duty blades help operators handle uneven terrain. The three sections are hinged to allow operators to shape the cutter to the job. The cutter is also offered with 3-in. and 4-in. cutting capacity.

The Land Pride flail mowers are designed to do everything from cut grass to shred prunings. The 20 Series flail mower offers a two-position hitch for offsetting the mower, enabling closer cutting along buildings, fences or roadsides. The 30 Series flail mower offers 3/16-in. deck material and uses a threaded rod to easily offset the hitch by nearly 8 inches. The 40 Series features heavy forged hammers, a precision balanced rotor and adjustable brush rake teeth on the rear. For more information contact Land Pride at 785/820-8692 or [www.landpride.com](http://www.landpride.com) / circle no. 251



to reach speeds of up to 17 mph. Multiple leaf spring suspension with hydraulic shock absorbers and self-compensating single reduction rack and pinion steering make it a comfy ride, too. Options include a sun canopy, all-weather enclosure, light bar with beacon, taillights and brake lights, turn signals with 4-way flasher, windshield kit, right and left locking glove box and an hour meter.

For more information contact E-Z-GO Textron at 706/798-4311 or [www.ezgo.com](http://www.ezgo.com) / circle no. 252

## Around a pond

Oly-Ola Sales has come out with Pond Liner edging designed to hold liners used for pond and water gardens permanently in place. The Pond Liner edging, made of strong, black vinyl, provides a natural looking border, allows plant materials or turf to grow up to the edge of a pond and provides landscape contractors with the versatility to install attractive ponds with or without rock borders.

For more information contact Oly-Ola at 800/334-4647 or [www.olyola.com](http://www.olyola.com) / circle no. 253

## Need a lift?

The Extractor mechanical fork features five interchangeable rudder-guided tines, equipment with soil retaining blades and fins, quick-connect tine interlocking system and alloyed teeth. Application includes B&B, shrub, tree, rock and material removal, digging and loading units currently for all skid steers, 3-pt. hitches and ASV.

For more information contact Extractor CDM Inc. at 509/725-8443 / circle no. 254

## Grow, turf, grow

Grow turf to the max with Novartis' new Primo Maxx, a turf growth regulator that eliminates odor while providing the same performance of the traditional Primo Liquid. Primo Maxx features a microemulsion concentrate formulation that contains no petroleum solvents, mixes clear in water, is odorless and won't clog screens. Because of its small particle size — 0.1 micron — it mixes completely and will not settle out in a spray tank. Primo Maxx is available in both 2x1 gal. cases and a 10-gal. LinkPak container.

For more information contact Novartis at 1-800-395-TURF or [www.cp.novartis.com](http://www.cp.novartis.com) / circle no. 255

## See the light

Tired of trying to find a good deck light for his customers, Garry Ballard, president of North Oaks, decided to come up with his own. His lights are low voltage ones for decks, docks, patios and gardens. Features include cast aluminum body, copper vein color power coat to match decks, 60-in. wire leads and Copper top on Postmount model. North Oaks claims that one light illuminates 50 to 60 sq. ft.

For more information contact North Oaks at 888/636-2277 or [www.northoaks.com](http://www.northoaks.com) / circle no. 256

## Spread anything

The JRCO stainless steel frame electric broadcast spreader fits commercial riding and walk-behind mowers and is available with either a stainless steel foot-operated gate or push/pull cable. The polyethylene hopper has a capacity of 2.2 cu. ft. or 130 lbs. It improves productivity

with increased ground speed and a controlled 5 to 24-ft. spread. The heavy-duty broadcaster is ideal for spreading all types of granular or pelletized fertilizer, seed, fire ant bait and ice melting products.

For more information contact JRCO at 800/966-8442 / circle no. 257

## Super surfer

Great Dane Power Equipment says its Super Surfer zero-turn stand-on mower stands out from the crowd because the platform, which is moved forward from behind the rear wheels, results in a dramatic effect on the center of gravity, improved operator comfort and hill climbing ability. Other features include a floating deck and easy height of cut adjustments, light and compact design, top speed of 10 mph, Hydro-Gear pumps, 20-in. rear tires, reverse speed adjustments, wheel motors with 20% more torque and direct access for blade



change. The Super Surfer is available in 36-, 48-, 52- and 61-in. cutter decks and engine options up to 23 hp.

For more information contact Great Dane at 812/246-8770 or circle no. 258

## Rugged loaders

Four Mustang 2000 Series skid-steer loaders boast SAE load ratings ranging from 1,300 to

*continued on page 85*

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## products



*continued from page 83*  
2,100 lbs. Mustang claims that the loaders' axle torque and break-out force are unmatched in the industry. Mustang's Load Sensing hydraulic system deliv-

ers the precise amount of power needed to any attachment.

For more information contact Mustang at 507/451-7112 / circle no. 259

### Portable power wash

The Cyclonator, a modular, recycling, high-pressure wash rack system, provides a cost effective means of cleaning equipment while preventing ground water contamination and reducing water/sewage costs. It can be used indoors or outdoors and set-up or taken down in less than an hour. It has no special plumbing or electrical hook-ups and requires no digging or concrete work. It comes with wash racks, filtration system and fresh-water holding tank.

For more information contact Riveer Company at 888/857-7304 / circle no. 260

### Big machine performance

Thomas Equipment's new T-245 HDK skid steer loader combines big machine strength and power. It has a 2,400-lb. lifting capacity and an 87-net-hp Kubota turbocharged diesel engine. Two 3-in. bucket cylinders are designed to provide high front-end strength and a breakout force of more than 6,970 lbs. Sound insulation keeps noise at less than 85 dBA inside the cab. "Quick-tach" attachment mounting makes utilizing a variety of Thomas attachments a snap.

For more information contact Thomas Equipment at 800/561-5623 / circle no. 261

### Sawdust to sawdust



Whoever thought a chipper could be worldly? Well, that's exactly what Vermeer is saying its new BC1000 brush chipper is because it brings together the best European and American design features. It's more quiet, and, at 10x17 in. wide,

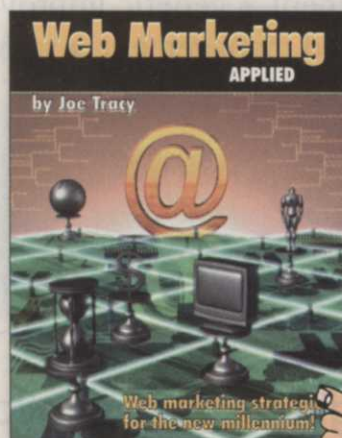
it has the largest feed opening in its class. Any debris up to 10 in. in diameter is at this chipper's mercy.

For more information contact Vermeer at 888/VERMEER or [www.vermeer.com](http://www.vermeer.com) / circle no. 262

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- 17  330 Cemeteries/Memorial Gardens
- 18  335 Hospitals/Health Care Institutions
- 19  340 Military Installations or Prisons
- 20  345 Airports
- 21  350 Multiple Government/Municipal Facilities
- Other Grounds Care (please specify) \_\_\_\_\_

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- 24  365 Dealers, Distributors, Formulators & Brokers
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2. Which of the following best describes your title? (fill in ONE only)

- 26  10 Executive/Administrator - President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 27  20 Manager/Superintendent - Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 28  30 Government Official - Government Commissioner, Agent, Other Government Official
- 29  40 Specialist - Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 30  50 Other Titled and Non-Titled Personnel (please specify) \_\_\_\_\_

3. SERVICES PERFORMED (fill in ALL that apply)

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|--|---|--|
| 40 <input type="radio"/> A Mowing              | 45 <input type="radio"/> F Turf Fertilization   | 50 <input type="radio"/> K Paving, Deck & Patio Installation |
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4a. Do you specify, purchase or influence the selection of landscape products?

- 75  Yes 76  No

4b. If yes, check which products you buy or specify: (fill in ALL that apply)

- |  |  |  |
|--|--|--|
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| 56 <input type="radio"/> 2 Blowers           | 63 <input type="radio"/> 9 Insecticides            | 70 <input type="radio"/> 16 Tractors                   |
| 57 <input type="radio"/> 3 Chain Saws        | 64 <input type="radio"/> 10 Line Trimmers          | 71 <input type="radio"/> 17 Truck Trailers/Attachments |
| 58 <input type="radio"/> 4 Chipper-Shredders | 65 <input type="radio"/> 11 Mowers                 | 72 <input type="radio"/> 18 Trucks                     |
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5. Do you have Internet Access? 77  A Yes 78  B No

5a. If so, how often do you use it?

- 79  A Daily 80  B Weekly 81  C Monthly 82  D Occasionally

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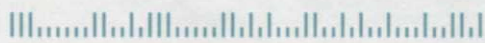
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- 19  340 Military Installations or Prisons
- 20  345 Airports
- 21  350 Multiple Government/Municipal Facilities
- Other Groundscare (please specify) \_\_\_\_\_

**SUPPLIERS AND CONSULTANTS**

- 22  355 Extension Agents/Consultants for Horticulture
- 23  360 Sod Growers, Turf Seed Growers & Nurseries
- 24  365 Dealers, Distributors, Formulators & Brokers
- 25  370 Manufacturers
- Other (please specify) \_\_\_\_\_

2. Which of the following best describes your title? (fill in ONE only)

- 26  10 Executive/Administrator - President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 27  20 Manager/Superintendent - Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 28  30 Government Official - Government Commissioner, Agent, Other Government Official
- 29  40 Specialist - Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 30  50 Other Titled and Non-Titled Personnel (please specify) \_\_\_\_\_

3. SERVICES PERFORMED (fill in ALL that apply)

- |  |   |  |
|--|---|--|
| 40 <input type="radio"/> A Mowing              | 45 <input type="radio"/> F Turf Fertilization   | 50 <input type="radio"/> K Paving, Deck & Patio Installation |
| 41 <input type="radio"/> B Turf Insect Control | 46 <input type="radio"/> G Turf Disease Control | 51 <input type="radio"/> L Pond/Lake Care                    |
| 42 <input type="radio"/> C Tree Care           | 47 <input type="radio"/> H Ornamental Care      | 52 <input type="radio"/> M Landscape Installation            |
| 43 <input type="radio"/> D Turf Aeration       | 48 <input type="radio"/> I Landscape Design     | 53 <input type="radio"/> N Snow Removal                      |
| 44 <input type="radio"/> E Irrigation Services | 49 <input type="radio"/> J Turf Weed Control    | 54 <input type="radio"/> O Other (please specify) _____      |

4a. Do you specify, purchase or influence the selection of landscape products?  
75  Yes 76  No

4b. If yes, check which products you buy or specify: (fill in ALL that apply)

- |  |  |  |
|--|--|--|
| 55 <input type="radio"/> 1 Aerators          | 62 <input type="radio"/> 8 Herbicides              | 69 <input type="radio"/> 15 Sweepers                   |
| 56 <input type="radio"/> 2 Blowers           | 63 <input type="radio"/> 9 Insecticides            | 70 <input type="radio"/> 16 Tractors                   |
| 57 <input type="radio"/> 3 Chain Saws        | 64 <input type="radio"/> 10 Line Trimmers          | 71 <input type="radio"/> 17 Truck Trailers/Attachments |
| 58 <input type="radio"/> 4 Chipper-Shredders | 65 <input type="radio"/> 11 Mowers                 | 72 <input type="radio"/> 18 Trucks                     |
| 59 <input type="radio"/> 5 De-icers          | 66 <input type="radio"/> 12 Snow Removal Equipment | 73 <input type="radio"/> 19 Turfseed                   |
| 60 <input type="radio"/> 6 Fertilizers       | 67 <input type="radio"/> 13 Sprayers               | 74 <input type="radio"/> 20 Utility Vehicles           |
| 61 <input type="radio"/> 7 Fungicides        | 68 <input type="radio"/> 14 Spreaders              |  |

5. Do you have Internet Access? 77  A Yes 78  B No

5a. If so, how often do you use it?

- 79  A Daily 80  B Weekly 81  C Monthly 82  D Occasionally

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101	113	125	137	149	161	173	185	197	209	221	233	245	257	269	281	293	305
102	114	126	138	150	162	174	186	198	210	222	234	246	258	270	282	294	306
103	115	127	139	151	163	175	187	199	211	223	235	247	259	271	283	295	307
104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
109	121	133	145	157	169	181	193	205	217	229	241	253	265	277	289	301	313
110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314
111	123	135	147	159	171	183	195	207	219	231	243	255	267	279	291	303	315
112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316



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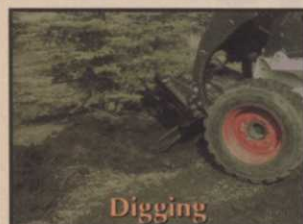
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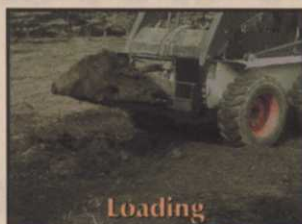
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