

Merit, which belongs to a new class of insecticides called chloronicotinyls, selectively disrupts insects' nerves. MACH2 mimics the activity of the insect molting hormone, causing a premature, lethal molt. Both products are target-selective, which means they have low inherent toxicity, except to insects. Registration of Meridian (thiamethoxam), a new thianicotinyl with a control spectrum similar to Merit's, is expected within the next year.

Applied before egg hatch, Merit and MACH2 usually provide excellent (>90%) control. Throughout most of the cool-season and transition turfgrass zones, the optimal treatment window for controlling annual grub species (e.g. Japanese beetles, masked chafers) with either product is June 10 to July 21. That timing ensures that fresh residues are in the soil at egg hatch.

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Preventive grub insecticides do have limitations. Neither Merit nor MACH2 works well against large grubs. MACH2 will control small- to mid-sized grubs (up to the second instar) for several weeks after egg hatch, but as a "rescue" treatment it works too slowly to discourage skunks and other predators from digging. Both insecticides work well against masked chafers, Japanese beetles and black turf atenius grubs. MACH2 is less effective than Merit against European chafers and Asiatic garden beetles, but it's



Most of the newer insecticides are target-selective, providing reduced hazards and low environmental risk. Here, grubs were induced to undergo an abnormal, lethal molt following ingestion of MACH2, a molt-accelerating compound.

more active than Merit against cutworms and other caterpillars.

The downside of preventive grub control is that the decision to treat must be made before the extent of infestation is known. Turf managers who practice IPM, reserving preventive treatments for high-risk areas, often find they must spot-treat some areas in late summer. Fast-acting soil insecticides provide the safety net in such situations.

With last year's cancellation of Turcam (bendiocarb), Dylox (trichlorfon) and Sevin (carbaryl) are the only fast-acting products left for curative grub control. Carbaryl has the drawback of being toxic to earthworms, bees and beneficial parasitic wasps. Losing these products would leave few options other than blanket preventive control.

Good products for controlling billbugs still exist. Merit and MACH2 both have

systemic activity that will control young larvae within grass stems, as well as older ones that feed on roots in the soil. Either product applied at high label rate from mid-May to early June will preventively control billbugs, with residues persisting long enough to control white grubs later in summer. Alternatively, a pyrethroid can be applied in late April to mid-May to intercept female billbugs before they lay eggs in the stems. Consult entomologists at your state university for optimal timing in your area.

Surface-feeding pests

Cancellation or restriction of OPs and carbamates has had little impact on turf managers' ability to control surface-feeding pests. Some of the newer classes of insecticides work just as well, or better, than the old standbys.

Pyrethroids, including Talstar (bifenthrin), Tempo (cyfluthrin), DeltaGard

TABLE 1. INSECTICIDES THEN AND NOW

Note the greater diversity of today's products. Source: "Turfgrass Management for Golf Courses" by James B. Beard, 1st (1982) and 2nd (2001) editions¹

INSECTICIDES LABELED IN 1982			INSECTICIDES LABELED IN 2001		
Trade name	Chemical name	Chemical class	Trade name	Chemical name	Chemical class
Aspon	propyl thiopyrophosphate	OP	Amdro/Maxforce	hydramethylnon	bait
Diazinon	diazinon	OP	Award/Logic	fenoxy carb	bait
Dursban	chlorpyrifos	OP	Choice/TopChoice	fipronil	phenyl pyrazole
Dylox, Proxol	trichlorfon	OP	Conserve	spinosad	spinosyns
Dasanit	fensulfothion	OP	Deltagard	deltamethrin	pyrethroid
Malathion	malathion	OP	Dursban	chlorpyrifos	OP
Mocap	ethoprop	OP	Dylox	trichlorfon	OP
Oftanol	isofenphos	OP	MACH2	halofenozide	molt accelerator
Orthene	acephate	OP	Merit	imidacloprid	chloronicotinyll
Sevin	carbaryl	carbamate	Orthene	acephate	OP
Turcam	bendiocarb	carbamate	Sevin	carbaryl	carbamate
			Talstar	bifenthrin	pyrethroid
			Tempo	cyfluthrin	pyrethroid

¹Note that not every product is labeled against all pests, and that some state restrictions may apply. Always read the label!

(deltamethrin), Scimitar (lambda-cyhalothrin) and Astro (permethrin) work great against cutworms, armyworms and sod webworms.

Pyrethroids are synthetic versions of pyrethrum, a natural botanical insecticide, but with enhanced properties. They provide rapid knockdown of pests at low rates. Remember this when comparing costs because the price per gallon seems high until you factor in cost per application. Although they have low inherent toxicity to mammals and birds, most are labeled as "restricted use" because they're toxic to fish. They also work well against chinch bugs, greenbugs and other sucking pests, and for targeting adult females of billbugs or black turfgrass ateniens before they lay eggs in spring. They aren't effective against grubs because they bind in thatch and don't reach the root zone.

Conserve (spinosad), a novel insecticide derived from fermentation of a naturally

occurring bacterium, is also highly effective against cutworms, sod webworms and armyworms. It has low-use rates and low toxicity to humans and wildlife. MACH2 (halofenozide), especially liquid applications, also works well for turf-feeding caterpillars. Applied for grub control, Merit has systemic activity against chinch bugs, greenbugs and other sucking pests.

Regarding older chemistry, Dursban (chlorpyrifos), Orthene (acephate) and Sevin (chlorpyrifos) are still labeled against cutworms and other surface-feeders on golf courses. Labeled rates for some products (e.g. Dursban) have been reduced. Orthene and Dursban are no longer labeled for home lawns. Turcam was canceled in 2001. Diazinon is no longer labeled for golf courses or sod farms; all other uses will be phased out by 2003.

Mole crickets and fire ants

Registration of Chipco Choice (fipronil)

during the 1990s provided a powerful new option for residual control of mole crickets on southern golf courses. First in a new class of insecticides called phenyl pyrazoles, fipronil is the active ingredient in some of the world's most effective insecticides including Frontline on-animal flea control, Combat for household pests, and Termidor, a new termite product.

Originally limited to custom slit (sub-surface) application, the label was expanded in 2001 to include other pests and sites. TopChoice, a new granular product, is registered in 13 southern states for control of fire ants, mole crickets and nuisance ants on golf courses, sports fields, commercial and home lawns, sod farms and other turf sites. A single broadcast treatment controls fire ants for up to a year, while also controlling mole crickets (four months) and mound-building nuisance ants (three months or more). Other options for mole crickets include preventive

control with Merit, or curative control with Orthene or pyrethroids.

Fipronil is also available as Firestar, a new bait formulation that can be used as a mound or broadcast treatment for fire ants. Abamectin (Affirm), fenoxycarb (Logic, Award) and hydramethylnon (Amdro) are other effective fire ant baits containing reduced-risk insecticides.

Nuisance ants

Small, mound-building ants (e.g. *Lasius neoniger*) are largely beneficial in lawns and golf course roughs because they prey on the eggs and small larvae of other pests. Ant predation is a key reason why such sites aren't normally inundated by sod webworms, cutworms and grubs. Ants can become a problem when their mounds smother turf, dull mower blades, and disrupt the smoothness and uniformity of putting greens and tees. Ant mounds are usually less noticeable in fairways, roughs and lawns.

Problems with nuisance ants seem to be increasing nationwide. One theory why is

that residues of chlordane and other highly persistent turf insecticides used in the 1960s and early 1970s have finally declined. Replacement of diazinon (which is highly active on ants) with the new, more target-selective grub insecticides may also have allowed ants to gain a foothold on golf courses.

Controlling nuisance ants is difficult because fast-acting insecticides usually kill only a portion of the workers foraging on the surface and fail to eliminate the queen in her underground nest. Golf superintendents who have traditionally used OPs (e.g. Dursban) for ant suppression will find that pyrethroids work about as well. At best, such treatments suppress mound building for a few weeks after application. Some entomologists feel that Merit suppresses ants, but it hasn't been effective for that purpose in my trials.

TopChoice containing fipronil is highly effective against nuisance ants, but it's only labeled for use in the South. Aventis is seeking to broaden the fipronil label so that granular products for nuisance ant

control on northern golf courses might be available soon. In the meantime, golf superintendents can spot-treat nuisance ants on putting greens with Maxforce Fine Granule Insect Bait containing hydramethylnon. My tests showed that sprinkling a small amount of bait around the mounds will knock out individual nests within a few days. Ants won't take wet bait, so withhold irrigation for 12 to 24 hours to allow time for the worker ants to collect the bait pellets.

Earthworms

Earthworms are beneficial in turf because they alleviate soil, increase air and water infiltration, and help break down thatch. Thatch is rarely a problem in lawns with healthy earthworm populations. Worms nonetheless can be a nuisance on golf courses when their castings occur on putting greens, dulling mower blades and creating a muddy mess.

Certain insecticides and fungicides restricted during the 1990s (e.g. Turcam, Mocap, Crusade, Benlate) were toxic to earthworms. Although not labeled for earthworms, some golf superintendents who used them probably were motivated by the "added value" of suppressing earthworms and castings on closely-mowed playing surfaces. Still-labeled pesticides that suppress earthworms as a side effect include Sevin and the fungicide thiofanate-methyl. Note, however, that neither product is labeled for that purpose. In fact, there are no registered pesticides for earthworm control in the United States.

— Daniel Potter is professor of turf and landscape entomology at the University of Kentucky. His book, "Destructive Turfgrass Insects: Biology, Diagnosis, and Control," is available from Ann Arbor Press (800/858-5299) or the PLCAA or GCSAA bookstores.



Several newer classes of insecticides effectively control cutworms and other surface-feeders.

products

TECH CENTER

Blow away the competition

Echo says its new PB-650 backpack blower is the most powerful in the industry with 210 mph and 650 cfm at the pipe. A 68 fl. oz. capacity fuel tank provides extra long run time and easy-to-see fuel level. Flexible, side-mounted throttle assembly offers superior control and increased comfort.

For more information contact Echo at 800/673-1558 or www.echo-usa.com / circle no. 250

Fast clip

Kawasaki's KHS 1100A hedge clipper reaches hard-to-get areas with its single-sided 44-in. blade. Other features include a 17.2 oz. fuel tank, 22.5cc engine, and net weight of 13.1 lbs.

For more information contact Kawasaki at 616/954-3033 / circle no. 251

Edging with bite

Oly-Ola's new Bulldog-Edg is designed for tough paver restraint and landscape edging jobs. A unique "L" shape design and innovative stake holes make it easy to use and install. Its one-piece design flexes without snipping or cutting.

For more information contact Oly-Ola at 800/334-4647 or www.olyola.com / circle no. 252

Better blade

Grouser Products' new 1300 skid-steer dozer blade attachment comes available in widths from 6 to 9 ft. and features a 5/16-in. thick cast moldboard with a new skid shoe design that

Easy trimming

Maruyama's HT2300DR hedge trimmer features a 22.5cc Maruyama "LE" commercial engine, 24-in. chrome steel double blade, and new 5-position rotating blade that makes vertical and angled trimming faster and easier. It weighs just 10.9 lbs.

For more information contact Maruyama at 425/885-0811 or www.maruyama-us.com / circle no. 253



permits vertical and horizontal adjustment. It angles 30 degrees left and right, tilts 10 degrees, and works with all rubber-tired and tracked loaders up to 120 hp.

For more information contact Grouser Products at 800/747-6182 / circle no. 254

Even feeding

Lebanon Turf Products' ProScape homogenous fertilizer with Confront and Team prevents crabgrass and other annual grassy weeds from germinating while controlling established broadleaf weeds. Each granule contacts the same ratio of Confront and Team for uniform distribution and even feeding.

For more information contact Lebanon at 800/233-0628 or www.lebturf.com / circle no. 255

Mega spread

Barron & Brothers' MagnaSpread truck-mounted spreaders deliver fertilizer spread swaths up to 80 to 90 ft. and lime swaths of up to 50 to 60 ft. The company changed the fin design to control the directional characteristics of the spread patterns.

For more information contact BBI at 800/282-3570 / circle no. 256

See these saws

STIHL's new MS 191T chain saw has 11% more power than its predecessor, features 1.9 bhp and weighs a mere 8.8 lbs. The 200T model weighs only 7.9 lbs. and is more narrow for use in confined conditions. Both chain saws feature an anti-vibration system, automatic chain oiling and STIHL's ElastoStart shock-absorbing starter handle.

For more information contact Stihl at 800/467-8445 or www.stihlusa.com / circle no. 257

Clean sweep

Shindaiwa introduces three new types of aggressive nylon brushes for its PB270B Power-Broom. The new choices include the mixed nylon wire, carbine-impregnated nylon and crimped wire brushes, providing ranges of aggressiveness from medium to heavy duty.

For more information contact Shindaiwa at 503/692-3070 or www.shindaiwa.com / circle no. 258

How's the weather?

Meteorlogix's WeatherSentry is a subscription-based weather display system that allows businesses to benefit from a new generation of weather graphics with active storm tracking and weather alerting in an easy-to-use PC platform. A key function of the WeatherSentry system is the level of weather management specificity afforded by access to National Weather Service radar images updated every five minutes; plus local, regional, and national outlooks.

For more information contact Meteorlogix at 952/851-7279 / circle no. 259



To the max

RedMax's BC3400DL trimmer is powered by a 33.6cc two-cycle engine that drives a 6-in. commercial tap-and-go head. The ergonomically engineered unit weighs 15.1 lbs., and its handle can be positioned for comfort by the operator.

For more information contact RedMax at 800/291-8251 or www.redmax.com / circle no. 260

Plant food

PRO SOL's Chameleon is a plant food that contains iron with a combination of eight essential macro, secondary and micro nutrients formulated especially for turf. Chameleon is sized to 120 SGN.

For more information contact PRO SOL at 800/633-7685 or www.fritinc.com / circle no. 261

Scram, you big bad goose

Bird-X, Inc.'s new GooseChase is a food-grade taste aversion agent made from a bitter, smelly constituent of concord grapes that gets rid of geese by rendering their food sources inedible. One gallon of concentrate (per acre) is diluted, sprayed onto dry grass, allowed to dry, then reapplied every 7-14 days or after mowing.

For more information contact Bird-X at 800/662-5021 or www.bird-x.com / circle no. 262

On the bench

Supreme Corporation's new 3-person bench seat option to its Spartan service van enables contractors to transport crews of five to a job site in a single vehicle. Mounted on a cutaway chassis, the extended cab provides a full height bulkhead constructed of 5/8-in. FRP. The bench seat has three seatbelts and is consistent with all FMVSS regulations.

For more information contact Supreme at 219/642-4888 or www.supremeind.com / circle no. 263

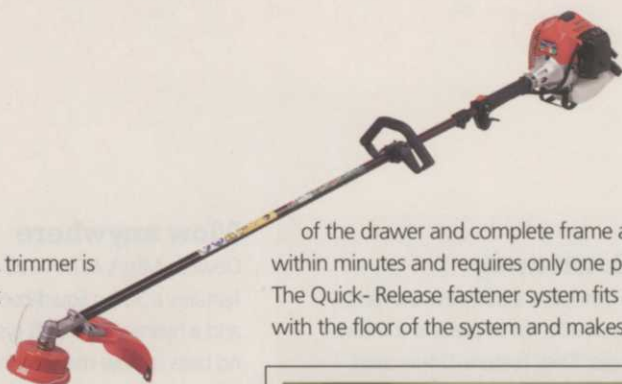
Bed protection

Durakon Industries' CargoPro pickup bed protection with a Quick Release Kit allows removal

of the drawer and complete frame assembly within minutes and requires only one person. The Quick-Release fastener system fits flush with the floor of the system and makes the

CargoPro user friendly.

For more information contact Durakon Industries at 800/933-4200 or www.durakon.com / circle no. 264



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Circle 135

products



Get blown away

The Toro Company's two new blowers, the 400 and 600, go anywhere the tow vehicle goes. They feature 1/4-in. steel frames and standard 180-degree directional blower spouts. The 600 features a 36-in. fan diameter that produces 9,324 cu. ft. per minute of airflow and 153-mph air velocity.

For more information contact Toro at 952/888-8801 or www.toro.com / circle no. 265

Tractor pull

Cub Cadet's 7360SS compact tractor is equipped with a 36-hp, four-cylinder, liquid-cooled diesel engine, fully synchronized shuttle shift transmission, hydrostatic power steering, full-floating ISO-mounted flat deck, fixed rollover protection and operator's station that features 3-position tilt steering wheel, adjustable high back seat and back-lit dash panel. It also comes with the option of ag, turf or industrial tires.

For more information contact Cub Cadet at www.cubcommercial.com / circle no. 266

Smaller swing

Caterpillar's 311C utility hydraulic excavator has a smaller tail swing radius than the 3118 excavator, making it ideal for use in space-restricted sites. It has net power of 79 hp produced by a Cat 3064 turbocharged, 4-cylinder diesel engine. The 3064T engine is designed for high torque rise at medium speeds, which helps make the engine fuel efficient and responsive in heavy-duty use. Operating weight is 26,410 lbs.

For more information write to Caterpillar at P.O. Box 10097, Peoria, IL 61612-0097 / circle no. 267

Open the jar

Hunter Industries' PGV Jar-Top Valve is a twist-on, twist-off "jar-top" that allows access to the valve's inner mechanisms during routine maintenance. No

tools are needed to remove the jar-top bonnet. The PGV Jar-Top is available as a one-in. plastic globe valve with optional flow control and features a fully-encapsulated solenoid for dependable operation. It's pressure-rated to 150 psi with a flow of 1 to 30 gpm.

For more information contact Hunter Industries at 800/733-2823 or www.hunterindustries.com / circle no. 268

Twistin' away

Using a swivel design, the Tongue Twister trailer enables users to easily pivot the trailer without unhitching it, allowing vehicles to be safely driven directly onto and off the trailer via straight-through front and rear ramp access. It comes in three styles of rotation actuation: electric, hydraulic and manual. All models have front and rear ramps.

For more information contact Tongue Twister at 877/925-8265 or www.tonguetwister.net / circle no. 269



Mow anywhere

DewEze Mfg.'s ATM-72LC all-terrain mower features a 30-hp liquid-cooled diesel engine and a hydraulic deck lift system that contains no belts for low maintenance. Hydrostatic propulsion and power steering gives it precise maneuvering.

For more information contact DewEze at 800/835-1042 or www.deweze.com / circle no. 270

Dig in

Kubota Tractor Corp.'s new KX91-3 compact excavator is equipped with Kubota's 3-cylinder, liquid-cooled, overhead valve, 27.9-hp E-TVCS diesel engine for high torque and power. The boom, arm and bucket function simultaneously through harmonized cylinder speeds. Bucket breakout force is 8,000 lbs., maximum digging depth 10 ft., 6 in., and maximum vertical digging depth 8 ft., 1 in.

For more information contact Kubota at 888/458-2682 / circle no. 271

Uplifting machine

Dutchman says its Tree Rex has the power and durability to lift root balls up to 50 in. in diameter and the flexibility to handle delicate pots without inflicting structural damage. The ergonomic pistol grip enables operator to load and unload trailers single-handedly.

For more information contact Dutchman at 905/683-8211 or www.dutchmasternurseries.com / circle no. 272

Big is better

Cub Cadet's Big Country is powered by a 20-hp Honda V-Twin OHV engine. It also features 6-wheel fully-independent suspension, large payload capacity, standard 4-wheel drive, fully welded steel frame, and a 5.7-gal. fuel tank. Extra features include two cup holders, a glove box, an under-the-seat toolbox, dash mounted 12 V-power outlet, halogen headlights and turf, knobby and heavy duty tire options.

For more information contact Cub Cadet at www.cubcadet.com / circle no. 273



Nice spread

Patented helical cone assures uniform, consistent spread pattern with the AccuPro 2000 from The Andersons. TurfSaver-2 pneumatic 13-in. wheels make for an easy push. Extended push handle has tuff-foam grips, front and rear lift handles.

For more information contact The Andersons at 800/543-0006 or www.andersonsinc.com / circle no. 274

On the platform

Gehl Company's Personnel Work Platform (PWP) system is a standard feature on the company's "DL Series" Dynalift telescopic handlers. This system uses an electronic module and a series of electrical sensors to monitor machine attitude, automatically controlling brake, hydraulic and transmission control systems during use with a personnel work platform. The PWP system is intended for use with ANSI/ASME-compliant work platforms.

For more information contact Gehl Company at 262/334-9461 or www.gehl.com / circle no. 275

Ants be gone

The InstAntKill Fire Ant Elimination System from BIO-TRAX, Inc. uses CO₂ injected into an ant mound to asphyxiate ants in no more than three minutes. The product eliminates red and black imported fire ants and other mound-building pests. Because it is harmless to the environment, the InstAnt KILL System can be used safely in all types of situations, including residences, schools, childcare centers, churches, golf courses, amusement parks and correctional institutions.

For more information contact BIO-TRAX, Inc. at 877/246-8729 or www.BIO-TRAX.com / circle no. 276

Small digger

Komatsu's diminutive PC03 excavator comes equipped with an 8.1 hp 2D68E diesel engine, standard 6.0 gpm auxiliary hydraulic piping, a back fill dozer blade and weighs 1,984 lbs. It can operate up to 7.5 hours without refueling thanks to its 3.4-gal. fuel tank. The dig depth for the PC03 is 4 ft. 11 in. and uses a 14-in. bucket. The one-piece boom design, articu-

lated boom swing design, miserly fuel consumption and outstanding power delivery make the PC03 the replacement to manual

labor on many job sites.

For more information contact Komatsu Utility Corp. at 847/573-3561 or www.komatsuutility.com / circle no. 277

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Rugged, dependable BlueBird Aerators have been proven under the heaviest use and abuse by rental and professional users for years. This remarkable reliability means you'll enjoy less downtime

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The new 530 features free-wheeling outer tines for greater maneuverability.



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Pull uniform cones up to 3" in depth.

TA10 Towable w/modular weight system



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Circle 136

products

Load and unload in comfort

Coyote's C7 wheel loader features hydrostatic four-wheel drive and automatic differential locks on front and rear axles for ease of operation and serviceability. A Deutz diesel 40-hp engine with oil-over-air cooling offers dependable service. The loader also offers a hydraulic rapid changeover system and comfort cab with access from both sides.

For more information contact Coyote at 888/269-6830 / circle no. 278

Jump in a pond

Aquanetics' Submersible Pond Filters have a cylindrical shape and open weave design and, upon request, the filters can be supplied with crushed rock. Some key features of the filters: 1 non-toxic and non-corroding plastic and nylon material, all black construction so filters are nearly invisible, and no tools are needed for installation or maintenance. The pond filters are available in six different models for ponds up to 3,000 gallons.

For more information contact Aquanetics Systems Inc. at 619/291-8444 or www.aquanetics.com / circle no. 279

Dyne-amite

NMC-Wollard's VersaDyne is a compact wheel loader/tool carrier that features tool visibility, pilot control hydraulics, ergonomic operator's station, universal tool carrier, efficient 2-speed

Reduce the pressure

Rain Bird Corp.'s new two-in. pressure reducing valve (200PRV) is designed for point-of-connection applications and offers a more economical alternative to brass pressure reducing valves. It's rated at 200 psi inlet pressure, with adjustable outlet pressure of 25 to 85 psi and a maximum flow of 120 gpm. A built-in Schrader valve allows easy adjustment and measurement of outlet pressure.

For more information contact Rain Bird at 520/741-6100 or www.rain-bird.com / circle no. 280



auto shift drivetrain and more. It also has a 3,000 lb. lift capacity, hydro/mechanical drive with an 85-hp Cummins turbo diesel and an integrated rear axle/transfer case with 10 degree oscillation.

For more information contact NMC-Wollard at 800/656-6867 or www.nmc-wollard.com / circle no. 281

Quick change

Peco's Z trimmer can edge or trim from horizontal to vertical with one quick adjustment. This machine can be adapted to any mower deck and easily folds out of the way

for transportation.

For more information contact Peco at 800/438-5823 or www.lawnvac.com / circle no. 282

Traveling rain

Pioneer's Rain Train Traveling Sprinkler was made for maintenance departments that need to water their fields regularly. Water pressure powers the Rain Train down the field at travel lengths up to 200 ft. The Rain Train allows groundskeepers to apply light, moderate or heavy water applications in a single pass. The sprinkler turns off at the end of its run and it can cover widths between 75 and 90 ft.

For more information contact Pioneer at 800/877-1500 or www.pioneer-mfg.com / circle no. 283

Blast off

ClearWater's ScaleBlaster is a product that eliminates formation of limescale deposits in water pipes, faucets, sprinkler systems, and irrigation without the need of water softening equipment, salts, chemicals or maintenance. The product is non-invasive and adds nothing to water. The descaler has been tested and approved by leading EPA laboratories and universities.

For more information contact ClearWater at 800/756-7946 / circle no. 284



Landscape MANAGEMENT

April 2002

This card is void after June 15, 2002

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1. My primary business at this location is: (fill in ONE only)

CONTRACTORS/SERVICE COMPANIES

- 02 255 Landscape Contractors (Installation & Maintenance)
- 03 260 Lawn Care Service Companies & Custom Chemical Applicators (ground & air)
- 04 285 Irrigation Contractors & Consultants
 - Other Contractors/Service Companies (please specify) _____

LANDSCAPING/GROUNDS CARE FACILITIES

- 05 290 Sports Complexes
- 06 295 Parks
- 07 305 Schools, Colleges & Universities
 - Other Grounds Care Facilities (specify) _____

SUPPLIERS AND CONSULTANTS

- 08 355 Extension Agents/Consultants for Horticulture
- 09 360 Sod Growers, Turf Seed Growers & Nurseries
- 10 365 Dealers, Distributors, Formulators & Brokers
- 11 370 Manufacturers
 - Other (please specify) _____

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

- 12 10 **Executive/Administrator** - President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 13 20 **Manager/Superintendent** - Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 14 30 **Government Official** - Government Commissioner, Agent, Other Government Official
- 15 40 **Specialist** - Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 16 50 **Other Titled and Non-Titled Personnel** (please specify) _____

3. SERVICES PERFORMED (fill in ALL that apply)

- | | | |
|--|--|---|
| 17 <input type="radio"/> A Mowing | 23 <input type="radio"/> G Turf Disease Control | 28 <input type="radio"/> L Pond/Lake Care |
| 18 <input type="radio"/> B Turf Insect Control | 24 <input type="radio"/> H Ornamental Care | 29 <input type="radio"/> M Landscape Installation |
| 19 <input type="radio"/> C Tree Care | 25 <input type="radio"/> I Landscape Design | 30 <input type="radio"/> N Snow Removal |
| 20 <input type="radio"/> D Turf Aeration | 26 <input type="radio"/> J Turf Weed Control | 31 <input type="radio"/> O Other (please specify) |
| 21 <input type="radio"/> E Irrigation Services | 27 <input type="radio"/> K Paving, Deck & Patio Installation | |
| 22 <input type="radio"/> F Turf Fertilization | | |

4a. Do you specify, purchase or influence the selection of landscape products?

- 58 Yes 59 No

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

- | | | |
|--|---|---|
| 32 <input type="radio"/> A Aerators | 39 <input type="radio"/> H Herbicides | 46 <input type="radio"/> O Sweepers |
| 33 <input type="radio"/> B Blowers | 40 <input type="radio"/> I Insecticides | 47 <input type="radio"/> P Tractors |
| 34 <input type="radio"/> C Chain Saws | 41 <input type="radio"/> J Line Trimmers | 48 <input type="radio"/> Q Truck Trailers/Attachments |
| 35 <input type="radio"/> D Chipper-Shredders | 42 <input type="radio"/> K Mowers | 49 <input type="radio"/> R Trucks |
| 36 <input type="radio"/> E De-icers | 43 <input type="radio"/> L Snow Removal Equipment | 50 <input type="radio"/> S Turfseed |
| 37 <input type="radio"/> F Fertilizers | 44 <input type="radio"/> M Sprayers | 51 <input type="radio"/> T Utility Vehicles |
| 38 <input type="radio"/> G Fungicides | 45 <input type="radio"/> N Spreaders | |

5. Do you have Internet access? 52 A Yes 53 B No

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

- 54 A Daily 55 B Weekly 56 C Monthly 57 D Occasionally

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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**Landscape
MANAGEMENT**

ADVANSTAR COMMUNICATIONS INC
PO BOX 5054
PITTSFIELD MA 01203-9697



**Landscape
MANAGEMENT**

April 2002

This card is void after June 15, 2002

I would like to receive (continue receiving)

LANDSCAPE MANAGEMENT free each month:

Yes no

1. My primary business at this location is: (fill in ONE only)

CONTRACTORS/SERVICE COMPANIES

- 02 255 Landscape Contractors (Installation & Maintenance)
- 03 260 Lawn Care Service Companies & Custom Chemical Applicators (ground & air)
- 04 285 Irrigation Contractors & Consultants
- Other Contractors/Service Companies (please specify) _____

LANDSCAPING/GROUNDS CARE FACILITIES

- 05 290 Sports Complexes
- 06 295 Parks
- 07 305 Schools, Colleges & Universities
- Other Grounds Care Facilities (specify) _____

SUPPLIERS AND CONSULTANTS

- 08 355 Extension Agents/Consultants for Horticulture
- 09 360 Sod Growers, Turf Seed Growers & Nurseries
- 10 365 Dealers, Distributors, Formulators & Brokers
- 11 370 Manufacturers
- Other (please specify) _____

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

- 12 10 **Executive/Administrator** - President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 13 20 **Manager/Superintendent** - Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 14 30 **Government Official** - Government Commissioner, Agent, Other Government Official
- 15 40 **Specialist** - Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 16 50 **Other Titled and Non-Titled Personnel** (please specify) _____

NAME (please print) _____
 TITLE _____
 FIRM _____
 ADDRESS* _____
 CITY _____ STATE _____ ZIP _____
 *Is this your home address? Yes No
 PHONE (____) _____ FAX (____) _____
 E-MAIL ADDRESS _____
 Signature: _____ Date: _____

Advantstar Communications provides certain customer contact data (such as customers' names, addresses, phone numbers and e-mail addresses) to third parties who wish to promote relevant products, services and other opportunities which may be of interest to you. If you do not want Advantstar Communications to make your contact information available to third parties for marketing purposes, simply call 888-527-7008 between the hours of 7:30 a.m. and 5:00 p.m. and follow the instructions to remove your name from Advantstar's lists, or indicate so below.

3. SERVICES PERFORMED (fill in ALL that apply)

- 17 A Mowing
- 18 B Turf Insect Control
- 19 C Tree Care
- 20 D Turf Aeration
- 21 E Irrigation Services
- 22 F Turf Fertilization
- 23 G Turf Disease Control
- 24 H Ornamental Care
- 25 I Landscape Design
- 26 J Turf Weed Control
- 27 K Paving, Deck & Patio Installation
- 28 L Pond/Lake Care
- 29 M Landscape Installation
- 30 N Snow Removal
- 31 O Other (please specify) _____

4a. Do you specify, purchase or influence the selection of landscape products?
 58 Yes 59 No

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

- 32 A Aerators
- 33 B Blowers
- 34 C Chain Saws
- 35 D Chipper-Shredders
- 36 E De-icers
- 37 F Fertilizers
- 38 G Fungicides
- 39 H Herbicides
- 40 I Insecticides
- 41 J Line Trimmers
- 42 K Mowers
- 43 L Snow Removal Equipment
- 44 M Sprayers
- 45 N Spreaders
- 46 O Sweepers
- 47 P Tractors
- 48 Q Truck Trailers/Attachments
- 49 R Trucks
- 50 S Turfseed
- 51 T Utility Vehicles

5. Do you have internet access? 52 A Yes 53 B No

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

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