

Now Mulch Magic[®] Is Better Than Ever!

Mulch Magic[®] is the easy-to-apply, long lasting spray colorant which instantly restores the bright, original-looking color to faded fibrous mulch products, including cedar, cypress, redwood bark, pine straw and more. With one quick application, Mulch Magic helps keep landscapes looking freshly groomed without the hassle and expense of adding new mulch. And now Mulch Magic is even better than before.



If you thought original Mulch Magic lasted long and covered easily, you won't believe our new formulation. Our improved technology makes it the longest-lasting mulch colorant ever!



We talked to landscapers and lawn care professionals. And we listened! Now Mulch Magic comes in a new half-gallon container for convenient storage and even easier handling.



It's the biggest and best news of all. With new formula Mulch Magic, you can rejuvenate old, faded mulch for less than a penny per square foot. So it's an incredible value!



Mulch Magic is easy to apply with any conventional backpack or hand-held sprayer. It won't harm plants. Plus, Mulch Magic effectively covers herbicide stains and helps to hide unsightly trash and residue.

As a landscaper or lawn care professional, you can earn substantial profits by selling Mulch Magic applications to all your existing customers with mulch beds. What's more, it could be your competitive edge when it comes to attracting new customers. Call or write today for more information!







Mulch Magic Bright Brown



Mulch Magic Dark Brown

Becker-Underwood, Inc. 801 Dayton Avenue • Ames, Iowa 50010 U.S.A. 515-232-5907 • Fax 515-232-5961

Toll-Free 1-800-232-5907

Mulch Magic and The Color Of Innovation are registered trademarks of Becker-Underwood, Inc.



Weather stations:

At the forefront of new golf course technology

As the golf course superintendent's job becomes more sophisticated, so does the technology available. An important part of that technology is the weather station, which can be used to control irrigation, predict disease outbreaks, guard against liability issues, and much, much more.

"The temperature dictates everything we do," says Mike Handrich, CGCS, of Racine (Wis.) Country Club. "Our new weather station makes the decision-making process—on a day-to-day basis—a lot easier. And we can get the information at the touch of a button."

Full-function weather stations are now available for as little as \$760 or as much as \$8,000. Most can be hooked up to computers, and feature many of these components:

• a micrologger, a mini-computer that can generate hourly, daily, weekly or monthly averages, extremes or totals; the data is stored in 24-hour time blocks and retrieved by authorized users

• a thermometer to measure air temperature

• a **barometer** to measure atmospheric pressure

• relative humidity sensors

 an anemometer to record wind speed and directions

• a **pyronometer** to record solar radiation

• a rain sensor or gauge, the most common being tipping buckets or cups

• an evapotranspiration gauge that calculates the amount of water lost from the soil to evaporation

• an **atmometer** that measures evaporating capacity of air, most typically an evaporation pan or "Bellani plate"



Workers install the Georgia Turfgrass Foundation Trust's new weather station adjacent to its research green in Duluth. Photo by Doug Moody

• soil moisture sensors, metallic probes buried in the soil or tensiometers to measure temperature and/or wetness; some are even equipped with relays to locally control irrigation valves in areas where there might be flooding

• wind chill gauges

• stand-alone lightning detection systems

• clocks and alarms that can be set to activate when given parameters are programmed (e.g. when rainfall for any one month reaches a certain total, or when the temperature reaches a certain level for so many consecutive days, etc.)

• telephone modems to relay data to outlying points

Many states like California, Nebraska and Georgia offer information based on their own weather station readings. These networks were originally formed to provide data to the agricultural community, but more golf superintendents are taking advantage of them.

At the University of Georgia, for instance, Dr. Gerrit Hoogenboom hooked

ELSEWHERE

Deep-tine aæration cures turf ills, p. 44

Adding practice areas, driving ranges, p. 46

up one of 18 weather stations (in its Automated Environmental Monitoring Network) at Atlanta Athletic Club. Another will be installed at the Georgia Turfgrass Foundation Trust's research green in Duluth.

"This is something that golf course superintendents and turf managers have needed for a long time," notes GTFT vice president Mark Esoda of Atlanta Country Club. "This is a specific source of valid weather information that does not come from Hartsfield Airport. We'll (now) have area-specific information available on a daily basis.

Contributors to the GTFT receive the proprietary phone number that links them to the weather station's data.

"We are trying to find answers and develop management strategies for the problems of high heat, high humidity and low air circulation during the summer," notes Esoda. "Every superintendent finds himself faced with problems on bentgrass greens under these conditions, (and) we want to know what practices will avert the problems."

Handrich bought his own weather station earlier this year. He sings its praises.

"It shows members that we're not flying by the seat of our pants," he says. "In this day and age, the members want the course as close to perfect as we can get it, every day."

Handrich says his unit comes in handy when determining daily spray programs.

"First, we're using it for wind speed, to see if we should be spraying at all. We've got sprayers going out nearly every day, so we've got to be on top of the wind speed. Whenever we spray, we log the temperature, wind, humidity, what we're spraying and why. Secondly, having the weather station data helps avoid liability and gives people the idea that we're very conscious of our spraying."

Local and on-site weather stations can also provide a relatively inexpensive way to determine the amount of water to apply, given the conditions. They can also be hooked up to what experts term a "reactive" irrigation system. Using a central control coupled with an on-site weather station and sound irrigation scheduling can save thousands of dollars a year.

Some weather stations can "communicate" (interface) directly with irrigation systems through a microcomputer, which has a software program that is designed to calculate the ET rate from the weather data. The golf superintendent, experts note, is still an important cog in this chain because he or she is the person who must translate management information into practical daily operation. "On a golf course, the superintendent is the irrigation expert, a walking, talking database," says Rene

Evelyn-Veere of Rain Bird. "The superintendent or landscape manager can modify the weather station data for specific weather conditions. Then, once the turf manager gets 'tuned into' the system, he can slowly, more precisely replace the water."

-Jerry Roche



Here are some of the manufacturers who make weather stations, and what their models offer:

Automata: Makes Data-Lynx Agricultural Management System software that can be hooked to Data-Lynx telemetry equipment, including Aqua-Tel soil moisture sensors, Aqua-Tel+S soil salinity sensors and other Automata weather monitoring equipment.

Circle No. 191 on Reader Inquiry Card

<u>C&M Meteorological Supply:</u> Has the ET Gage, an inexpensive device that gives you evapotranspiration rates within 2-3 percent accuracy. Optional equipment will allow you to link to virtually any computer datalogging system for regular reports or graphs.

Circle No.192 on Reader Inquiry Card

Karsten Turf: Manufacturers the Turf Anser Weather Station, which includes a data collection weather station connected through a Turf CAD computer to your irrigation system. The system can make daily computations of ET rate. Circle No. 193 on Reader Inquiry Card

Rain Bird Golf: Makes the WS-100 Maxi Weather Station, which can be hooked up to its Maxi System V irrigation equipment for "ET-sensitized" scheduling. High-end system includes state-of-the-art weather software that calculates ET values for you.

Circle No. 194 on Reader Inquiry Card

Spectrum Technologies: Makes the Weather Monitor II and Weather Wizard III, a pair of low-cost (less than \$1,000) stations. Main difference is that the Weather Wizard III does not track humidity, dew point or barometric pressure data while the Weather Monitor II does. Weatherlink can be used with Lotus 1-2-3 or Dbase III spreadsheet to build weather history easily.

Circle No. 195 on Reader Inquiry Card

Toro Irrigation: Makes the Network 8000, another high-end irrigation system with weather station. User can choose one of four ET measurement methods (temperature, solar radiation, historical data or CIMIS data) to determine the amount of water needed to replace that lost by ET.

Circle No. 196 on Reader Inquiry Card

_J.R.

GRASSHOPPERABILITY Make all the moves you need to mow.

Drive one and you'll discover Grasshopper's unsurpassed comfort and ease of operation. You'll increase your productivity by finishing in less time and with less fatigue. Adjustable dual-lever steering lets you trim as you mow. No pedals to push. All controls are in the palms of your hands. Advanced dual-hydrostatic direct drives ensure smooth response, while built-in durability saves downtime and gives dependable service season after season.

Customize to your grooming needs.

Grasshopper offers the broadest line of zero-turn front mowers, 12 to 25 hp, gas or diesel, cutting widths from 44" to 72", with mulching deck options, plus Quik-D-Tatch[®] grasscatching systems and yearround attachments.

alf the and the set

DISCOVER GRASSHOPPERABILITY Get a "hands-on" demonstration at your Grasshopper dealer.

grass'hop'per a bil'i ty n.

the ability to make all the right moves for mowing quality and time-saving productivity.

Low-Profile Accessibility



Zero-Radius Maneuverability

Outfront Reachability



P

Time-Saving Trimability

Square-Corner Turnability



GRASSHOPPER

01994

YOUR NEXT MOWER

The Grasshopper Company • One Grasshopper Trail • P.O. Box 637 • Moundridge, KS 67107 U.S.A. • Phone (316) 345-8621 • FAX (316) 345-2301

Circle No. 107 on Reader Inquiry Card

Deep-tine aeration solves wetness, compaction woes

It's given credit for helping Midwest courses bounce back from the rains of 1993 and other problems.

The rain indeed fell mainly on the Plains last year. It was a record-breaking wet summer in many parts of the Midwest, with some areas experiencing severe flooding. Mother Nature was especially unkind to golf courses in the region, leaving many saturated or under water.

"The amount of turfgrass lost last year due to the weather has been devastating to many Midwest clubs," observes Bryan Wood, owner of Commercial Turf, a contractor and distributor of turf maintenance equipment in Chillicothe, Mo.

Wood visited a dozen courses in Missouri, Iowa, Kansas, Nebraska and Illinois last fall. "Almost every course I visited, or superintendent I spoke to, had problems with wet wilt, algae, pythium root rot and/or brown patch," Wood says. "In addition, at times during the hot, dry days between rains, dry wilt became a factor due to the turf's shallow root systems caused by the wet weather."

Wood observed two other problems surfacing:

1) Open pore spaces in greens soil were reduced to a bare minimum from continuous days of saturation and water coverage, creating an immediate need to re-establish a desirable oxygen level.

2) Because of the large amount of chemicals used to fight disease, some courses developed a toxic chemical hardpan layer three or four inches below the surface, which could have led to compaction.

Wood made recommendations on a case-by-case basis, but in general he combined Verti-Drain deep-tine aeration, which had been successful in treating clay or heavily-compacted soils, and reseeding.

To re-seed more than 1.5 million square feet of turf last year, Wood used the Verti-Seed, a machine designed specially for minimal turf surface disturbance.

Three other Midwestern clubs faced similar problems: Bob-O-Link Golf Club and North Shore Country Club in the Chicago area, and Oak Hills Country Club in Omaha, Neb.

Bob-O-Link—Even before last year's rainy season, Bob-O-Link had poor drainage. According to assistant superintendent Rick Bowden, poor percolation was caused by severely compacted clay soil.

"By the late 1980s, the turf simply couldn't absorb water effectively," Bowden says. "After a one-half-inch rain, we couldn't use carts for two days.

Five years ago, Bob-O-Link began a deep-tine aeration program, using ^{3/4}-by-14-inch solid tines to penetrate to depths up to 12 inches.

"The course is ready for play again within hours, even after a one-inch rain," Bowden reports. "In addition, we find that we're watering less. The water gets deeper into the roots."

North Shore—This state-ranked course, home to the 1983 U.S. Amateur,

had extremely high levels of sodium in its well water. Foliage and trees that were irrigated were being burned up by July. The soil also had a crusty layer of compaction developing under the clay-based, push-up greens.

Six seasons ago, superintendent Dan Dinelli hired an outside contractor to deep-tine aerate the greens, and he's seen steady improvement in them.

"Root growth has been spectacular," Dinelli confirms. "And our aeration equipment is getting easier to use because the ground is more and more receptive."

Dinelli uses ½-by-12-inch solid tines so play isn't disrupted. He chooses not to fill the resulting holes, believing the turf's roots will breathe better that way.

Oak Hills—When the USGA Greens Section toured the course in 1989, representatives told superintendent Mark Stewart that 16 greens would have to be rebuilt. "The only alternative," Stewart says, "according to the USGA, was deeptine aeration."

Stewart has been using his Model 105 Verti-Drain twice a year since just after that 1989 inspection. In the spring, it's fitted with ¼-by-12-inch solid tines, in the fall with ¼-by-10-inch hollow-core tines. After each treatment, the greens are topdressed with sand.

"The last time the USGA visited," Stewart relates, "they pronounced the greens in their best condition ever. Root penetration has increased from three or four inches to as deep as 10 inches."



Bryan Wood of Commercial Turf uses a Verti-Drain deep-tine aerator to relieve compaction, increase percolation rates and introduce much-needed oxygen to the soil. The solid tines reach a foot below the surface.

Either Protect Your Turf, Or Enlarge Your Sandtraps.

Mole crickets. Fireants. Cutworms. Sod webworms. Armyworms. Fleas. Chinch bugs. Wasps. Who knows what they could eventually do to your golf course? Exactly why you should protect all of your greenery with ORTHENE* Turf, Tree



& Ornamental Spray. It's easy. It's economical. It controls the broadest spectrum of tough turf pests. And best of all, it's a heck of a lot better than the alternative. For more information, call 1-800-89-VALENT. Professional Products Team

Your Best Course Of Action.

For safety, always read and follow label directions carefully. C 1994 Valent U.S.A. Corp. ORTHENE is a registered trademark of Chevron Chemical Co.

Practice facilities made perfect

• If you're looking for a new golf course project for 1995, consider installing a practice area.

A well-designed practice area can increase the traffic to your course, and perhaps give it the edge you need to beat the competition.

Several options are available, according to the American Society of Golf Course Architects:

• stand-alone driving range;

• extra holes;

• training centers that feature driving ranges and putting greens;

• practice bunkers (which would eliminate having to watch out for people chipping onto the regular practice putting green). Large practice tee areas enable the superintendent and club pro to spread the foot traffic over a larger area.

Teeing areas can be a half acre in surface area.

Target greens at designated distances from the teeing area are more common nowadays, says the ASGCA. These help keep golf balls in the middle of the facility by giving the golfer a target similar to the targets on the course. These greens can be spruced up with mounds or sand bunkers.

Lesson tees are often designed as separate teeing areas at the end of the practice range or at the sides of the teeing area.

If the lesson tees are located at the end of the range, an adequate buffer distance of about 350 yards or more must be implemented.

Practice greens should be at least 10,000 sq. ft. in area to allow for adequate pin placements.

Revenue from practice areas can then be used to finance improvements or modifications around the rest of the course.

A "learning center" takes the driving range concept a step further, by giving golfers a place to work on a variety of shots.

The Man-O-War Golf Center in Lexington, Ky. has a 30-acre learning center, with a three tiered driving range, chipping area, putting green, realistic target greens and golf-swing video analysis.

Practice facilities often include a separate green to practice chipping and bunker shots.

It would be easy to implement all these improvements would be a breeze if you had a massive budget. But since your budget likely has a limit, start small. Make one improvement one year, and go from there.



time No. 126 on Reader Inquiry Ca

LAWN CARE INDUSTRY Selling aeration

Marketing aeration as an add-on service is a matter of show and tell. Your customers won't buy what they don't understand.

by Steve and Suz Trusty

The mid-summer doldrums strike again. You've been called out to one of the properties under your care to examine turf that's slightly off-color, seems to be thinning, and quickly shows signs of stress in high temperatures.

There's no evidence of insect or disease activity. Earlier soil test results indicated the need for a fairly standard fertility program, which has been followed closely. The crews are mowing properly, and rainfall has been adequate. Then why does the lawn look lethargic?

Core samples provide the answer. Thatch is average, but there are sparse, poorly-developed grass roots clustered near the surface, and a tightly-packed soil profile.

The lawn next door, another property under your care, looks good. A core sample shows its roots to be well developed, deep into the soil.

A look at the maintenance logs show the lethargic lawns haven't been aerated in the past two or three years.

Explain the benefits—The secret to selling aeration is proper client information. Don't assume the benefits of aeration to be common knowledge.

Simply listing aeration with other services you provide is not the answer. To sell aeration, create an understanding of what it is, what it will accomplish and why the customer's lawn needs it.

Use healthier lawns of neighbor clients as an example. If your company is maintaining a high-profile test plot for the Professional Lawn Care Association's Grasscycling campaign, add core aeration to the maintenance program. Develop signs to be posted on-site to explain the procedure and its benefits. If possible, as part of the signage, fill a small,



Make your customers come to expect aeration as a logical part of their lawn care program.

transparent receptacle with a few of the cores removed, so people can visually identify the size and shape.

To sell aeration, create an understanding of what it is, what it will accomplish and why the customer's lawn needs it.

 If your company is selling its services through a booth at a fair or home show, develop a photo board showing a lawn on an aeration program, with before-and-after photos. Show sample cores from an aerated lawn, taken before and some time after the service is performed. This helps customers see the difference in root development and soil density.

• Add a brochure on aeration as a marketing tools. Use color photos and simple, descriptive text to deliver the same message you'd give in person. If possible, feature photos of another clients healthy, aerated lawn. Make sure prospective aeration customers know that the lawn will be covered with tiny holes for a couple days.

Include the brochure in the next mailing to your established customer list, or issue a special mailing. Use an introductory letter as well.

Let the neighbors know—Post a sign to let the neighbors know what service is being performed, and why.

• Feature the aeration brochure and a short sales piece offering aeration and related services.

 Prepare crew members to field basic questions of potential customer who may pass by.

 You may want workers to give the curious a brochure, or offer a full explanation and quotes on specific services.

 Include aeration as part of your overseeding program.

• Prepare a simple hand-out sheet to accompany the aeration brochure when "pitching" an overseeding job by mail, or develop a brochure specifically for over seeding that includes the aeration information.

continued on page 50

We're talking about a control program that's very hard on fungus, yet very easy on your turfgrass. Some things you can do to reduce turf stress,

use less fungicide and still get an excellent level of control.

It starts with



Rubigan controls all five patch diseases, making diagnosis less critical. cultural practices. Like replanting

disease-prone areas with resistant cultivars. Careful watering. Providing adequate fertilizer. And removing thatch. They'll make

a stranglehold on fungu



your turf less susceptible to disease, which means you can use less fungicide to protect it. Knowing when to use a fungicide is important, too. By watching for conditions in which turf diseases thrive (weather patterns and soil Fungus attacks plants from within. The results can be devastating. <u>Responsible Pest Management</u>. It also contains complete information on tactics you can use to control weeds and insects more responsibly. For a free copy, just return the

reliable signs), you can put down fungicide with perfect timing, and make fewer applications.

kinder, gentler way to get

And, of course, it helps to choose your fungicide carefully.

coupon below, or call our toll-free telephone number. And learn some very nice alternatives to applying

A Short Course on Preventing_____ Dollar Spot.

Leading universities recommend the following cultural practices to protect your turf from dollar spot. Eliminate excess thatch. Provide proper aeration. Increase nitrogen. Remove dew and water deeply

Remove dew and water deeply and infrequently in the early morning (taking steps to keep your turf dry reduces

the risk of dollar spot).

a lot of

fungicide.

Long-lasting Rubigan* fungicide is a very good choice. It controls 14 diseases, including dollar spot, necrotic ring spot, summer patch and brown patch. It's very easy on your turf. And it lasts longer than most other fungicides, which means you don't have to apply it as often.

Of course, there's a lot more to fungus control than what fits in this ad. You'll find it in our 44-page book, <u>The Turf Manager's Guide to</u> Rubigan lasts longer than most other fungticides, so you don't have to apply it as often.

Send me the following Management Guide(s): Cool Turf Warm Turf Nursery and

Landscape



Mail to: DowElanco, P.O. Box 33489, Indianapolis, IN 46203-0489. Or call: *1-800-549-4554*

Name			_
Company			
Address			
City		_State	
Zip	Phone()		

The chemistry is right."

*Trademark of DowElanco. © 1994 DowElanco.

Selling aeration from page 47

Aeration benefits run deep

LCOs, research scientists all agree on its value.

- It opens passageways in the soil, allowing air, water and nutrient movement.
- Water percolation and infiltration are improved. Additional pore spaces "soften" heavy soils. There's more space for root development and deep rooting is encouraged as new growth extends through the core openings.
- Lawn care professionals use core aeration to rescue turf from stress. During drought conditions, core aeration helps water reach thirsty roots. Where rain is heavy, aeration allows air to penetrate and dry up excess moisture.
- Core aeration amends heavy clay soil profiles. Compaction is relieved, nutrient uptake is improved.
- Aeration is "an important turf maintenance tool which helps turf stand up to stress," says Dr. Gil Landry, University of Georgia, and others. Ken Mrock, turf manager for the Chicago Bears, and Jesse Cuevas, of Nebraska's Rosenblatt Stadium, call it "the single most important procedure in the maintenance program."

Curing summer burnout

There's no heat quite as intense as a midsummer Texas scorcher, claims Gary LaScalea, manager of A-Perm-O-Green Lawns, Dallas. Try pushing a spreader and lifting bags of fertilizer during one. "It gets so hot that people start to fall out by the middle of the summer. They can't take it anymore," he says.

That's when a lawn care company should show its employees extra consideration. From a practical standpoint, finding replacements in mid summer is uncertain, resulting in service disruptions as new employees learn the ropes and gain their licenses. But, LaScalea says, the real reason for giving employees extra appreciation during summer's heat—it's the right thing to do.

"I think you really have to be involved with the employees in these conditions," he says. "You have to show them that you're behind them, that you know how hot it is out there and you appreciate their efforts.

"Maybe you can bring in cold drinks when you know it's going to be hot. Or you can put ice machines in the offices so the guys can fill their coolers in the morning."



Russell Schmidt: advise your employees about heat stress.

Russell Schmidt, owner/operator Schmidt of Landscape. Hillsboro, Mo., says he loses an employee or two each summer. "It's not because they're not qualiworkers ty either." says Schmidt. "It's just that it gets so hot their brains get fried."

Russell says he opened an account at a local service station/convenience store to supply his workers with ice for their coolers. Also, he says his office manager, sensing that employees were wearing down, closed the company over the July 4 weekend and told everyone to take some time off.

"Heat stress is a big issue, and I think we all have to keep educating our employees about heat stress," adds Schmidt. "We definitely have to keep an eye on them in the summer."

Beyond that, supplying employees with hats and the proper summer wear may help. "We're looking at a different company shirt," says Schmidt. "The mowing guys say the shirts they're wearing don't breath as much as they'd like, and I don't allow my guys to take their shirts off at the job site."

But, even with every precaution Schmidt admits, "the temperatures are playing havoc with our work schedules."

Generally, keeping help through summer's dog days seems to be a bigger problem with companies doing more maintenance and mowing rather than applications, several business owners say.

"The help situation hurt us the last two or three years," admits Roy D. Megli, Megli Lawn Care, Sterling, Ill., explaining why he's stepped back some of the landscape services his company previously did.

Joe Burns, Color Burst, Atlanta, Ga., thinks interns from local colleges make good summer employees. "They'll work for you for the time they're there, usually about three months. Then they're gone." —Ron Hall