Work lights all the way around for those "extra long" days. Flashers and tail lights standard Adjustable Deluxe Seat with retractable seat belt Full instrumentation Shock dampened seat swings 20° each way for your slope mowing comfort Isolated operator platform reduces engine vibration Adjust cutting height from 1" to 9" without leaving your seat Foot treadle provides infinite control of speed, forward, reverse, and braking Over Tire Pivot allows each wheel to turn a full 180° degrees

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Low center of gravity gives you exceptional ground hugging reliability on steep slopes High flotation tires – your choice of turf or bar tread – minimizes compaction

ticularly from a liability standpoint.

To be safe, an employer must know his or her responsibility, accountability and the communication process. Let's examine each of these terms and what it means to the landscape professional:

Responsibility

Many municipalities or businesses avoid even thinking about safety. Legally, however, it is becoming negligent to take this approach. Omission is as bad as commission in negligence.

Top level management, if not establishing a safety philosophy, must support the one proposed and assign its policy to implement.

Policies, tailored to the organization, define the goals and objectives of the "safety effort."

Accountability

Many municipalities or businesses don't know what is safe or what is unsafe, either for employees or for customers.

The organization must possess the following:

- A complete inventory of its property or plant, especially areas subject to public use. Standards for those areas must be identified.
- A complete schedule of its activities or functions that are subject to public use. Standards for such use must also be identified and associated with such public involvement.
- A complete record of all incident forms, accident reports, logs, inspection sheets, patrol reports, medical and insur-

THE SAFETY MANUAL

- 1) Specifications for safe practices associated with equipment the public may come in contact with, like vehicles, mowers, chippers, saws, etc.
- 2) Regulations, including rules and activities prohibited in public areas.
- An outline of the sign system and how it conforms with ANSI standards, U.S. DOT standards and other criteria.
 - 4) Warning labels placed on any item

the public and employees may contact.

- 5) List of all protective devices in use and where they are kept.
- **6)** An outline of all emergency treatment that can be applied by staffers; emergency services and how they conform to ASTM F-30 standards and are approved by local authorities.
- 7) Search/rescue/recovery procedures.
- 8) A plan for disaster preparedness and readiness for emergencies such as terrorism, fire, storms, earthquakes, explosions, tornados, wrecks, sickness, toxic fumes, etc.

ance forms, safety audits, insurance memos and all other fact-reporting files.

- A file of outside agency reports and record forms so that police, ambulance, hospital and other records can be coordinated.
- A manual which contains the aforementioned items and minutes of the Safety Committee meetings, including action and implementation schedule for follow-up on concerns discussed. It should contain personnel information of the safety officers, guidelines for investigating accidents or other safety-related problems. It should also contain the various items specified in the accompanying chart.

Communication

The communication system must

include:

- Information: getting the awareness of safety to the public.
- Discussion: creating a means for feedback from the public.
- Negotiation: establishing win/win situations by responding, accommodating, attending to and following up on any type of incident or accident. Nothing is too small.

Having defined "safety," its relationship to liability and risk assumption will be covered in future issues.

—Dr. Mittelstaedt is board chairman of the Recreation Safety Institute, P.O. Box 392, Ronkonkoma, NY 11779. Phone number at the institute is (516) 563-4806.

"It would be analogous to someone sticking his or her hand under a running lawnmower to clear away grass," com-

ments Peter Gerstenberger, director of safety and education at the National

Gobble up tree limbs—not yours

Faster drum rollers on new chippers mean more danger for operators.
Follow these operator hints to safety.

■ Industry leaders are expressing alarm over the increasing numbers of operators who are improperly using disc-knife chippers—often with tragic results.

These machines are designed to gobble up large tree limbs—and large limbs only—yet operators insist on trying to ram brush through the device. Amputation or death can result.



Arborist Association.

"It was never a problem with the machine itself. It was a problem with the operators getting their hands in there," he says.

A disc-knife chipper is different from the older roller drum chipper model in that the faster roller drum relies on the knives to pull in the branches.

Because the disc-knife chipper is designed for larger limbs, it has infeed rollers close to the chute opening to pull in the heavier load.

"That means the operator can get his or her hands closer to the infeed rollers," Gerstenberger explains. "Once you're in there, the power of the thing will break your arm and drag you into it."

Some manufacturers have countered by offering chute extensions, but certain operators still aren't respecting the machine's design. "Now some people are leaning farther into the infeed chute," Gerstenberger laments.

A push stick will not work with the slower feed rate found on the disc-knife chipper: it is simply not designed for smaller twigs.

"It's clearly marked, yet people do it day after day," Gerstenberger says. "The temptation to get that last load of brush in there is always around."

If a disc-knife machine is on the job, policy should be that "all the fine-rakings are put in a garbage can and placed in back of the truck," he suggests. "Sure, disposal is a problem, but it's a much smaller problem than if you have an employee get caught in a disc chipper."

Exact casualty figures are not available, but Gerstenberger says the liability factor stemming from accidents has driven some disc-knife chipper manufacturers from the market.

Gerstenberger expresses hope in a newer design that's been on the marketplace for about a year. The pocketknife chipper has smaller knives on a larger drum. "They operate much like a drum chipper, and the hazard associated with disc-knife chippers is not there."

He says this device will grind just about "everything up to the primary branches and the trunk."

-Jim Guyette

—The author is former editor of "Lawn Care Industry" magazine. He is a freelance writer based in Cleveland, Ohio.

Estimating: Quantify your own job needs

If you don't have the time to prepare a comprehensive bid by bid date, then don't start it.

by Kent Miller

Preparing a comprehensive job estimate is a tedious and often ungratifying experience.

One shortcut that should never be taken is to use the vendor's or supplier's quantities and bid amount without thoroughly quantifying the work yourself. Without quantifying the work yourself, you'll be unable to identify their omissions.

If you receive a quote from a supplier, vendor, or subcontractor, thank them for it. Then compare the quantities to your own. If they've picked up something



Kent Miller: Do it yourself.

you've omitted, they've just done you a big favor while there is still time to correct it.

Many of our industry suppliers go to a great deal of expense to provide quotations based on their own quantity take-offs.

This is indeed a great service that would allow us, their customer, the opportunity of checking our take-offs for possible errors. They do not intend for the estimator to rely heavily on their quantities and clearly state a disclaimer on every quote.

We receive quotations from the take-off list we submit to suppliers and vendors prior to the bid date. Some vendors choose to submit their own quantities and unit prices based on their own take-off. Since no two take-offs are alike, you can imagine some of the errors and omissions you'll discover in making the comparisons.

Continued on page 24

MAJOR ELEMENTS OF LANDSCAPE & IRRIGATION PLANS

QTY. DESCRIPTION

Hydroseed

Hydro stolons

Sodded lawns

Rototill

Mulch 1"

Mulch 2"

Decomposed granite

Raked earth
River run stone
Boulders

Steel edge
Cast concrete curb
Extruded curb

Bark chips 1"

Redwood edge Tee stakes set

Lodge pole set Redwood set

Mounds topsoil

Mounds dirt fill

Clean up

Removals

Haul debris Misc. rental

Misc. subcontract

Groundcovers
Shrubs installed

Trees installed

Spray pop-ups Lawn sprayers

Filters

Pressure regulators

End flushes

Emitters
Controller walls

Wires

Gate valves

Quick couplers

Misc. rentals

Misc. supplies

A supplier's quote may differ greatly from your own for several reasons. Let's state a hypothetical case in which the vendor was an irrigation supply house and their quote did not include the copper pipe, copper fittings, or booster pump station because they weren't a supplier of it. Maybe the quotation originated from the

nursery and one species wasn't supplied because it wasn't in stock or available.

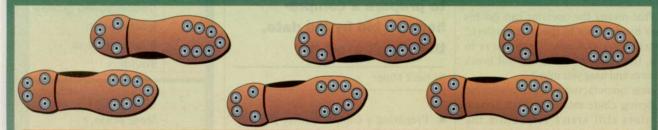
Margins today do not allow for errors or omissions. If you don't have the time to prepare a comprehensive bid by bid date, then don't start it. It is much easier to walk away from a bid date than it is to finish a bad job.

We jokingly say that a bad job only gets worse.

All joking aside, bad jobs cost money and typically originate from poor estimates.

—The author is vice president of The Groundskeeper, Inc. in Tucson, Ariz.

GOLF TURF MAINTENANCE IN HEAVY TRAFFIC AREAS



■ Here's some advice for curbing the ravages of heavy traffic on greens, tees and fairways from Randolph P. Russell, groundskeeper for the city of Austin, Texas.

Defining "heavy traffic" is elusive in itself, says Russell. Amount of wear-and-tear depends on the region, predominant weather patterns, and—perhaps most importantly—the varieties of grasses being used.

Generally, Russell says he notices that at least 45,000 rounds per year qualify a course for the "heavy traffic" category.

Avoiding the pitfalls of stressed out playing surfaces can be accomplished from tips learned at the "University of Experience:"

 Experiment with nitrogen levels, and don't be afraid to go beyond the norms. Greens recover better from injury, and thatch build-up is not a problem.

- Consider a one-to-one nitrogen/potassium ratio.
- Resist the temptation to use extremely low cutting heights, especially on putting greens, during periods of heat stress.
- Raise fairway cutting heights as winter approaches.
 This will improve root depth and not adversely effect playability if done thoughtfully.
 - Consistent aerification is a must.
- Minimize verticutting done to thin ryegrass, especially in spring. Close mowing and occasional double-cutting can be more effective.
- Look at all chemical applications from a new perspective, testing where possible under present traffic conditions.



Marketing for small businesses: do-able concepts

'Marketing' is not a jungle of theory and insatiable devourer of time. It's a way to increase profitability.

by Adrienne Zoble

 You don't have to be a marketing wizard with endless unscheduled hours in order to improve your marketing efforts.

An objective look at your business will almost always reveal already existing marketing opportunities. Here's how to diagnose and perform successful marketing tactics:

 An analysis of current customers and your relationships with them will likely reveal several opportunities.

Do you discuss the job with the customer after its completion? Doing so will reveal strengths on which you can capitalize and weaknesses on which you can improve. In addition, it may well lead to



Adrienne Zoble: Marketing is 'doable.'

additional business.

Do you make regular sales calls to existing customers? Don't presume a customer will call you. Sales calls to existing customers cost about 10 to 20 percent of what a sales call to a prospect costs.

Do you schedule strategic lunches or

dinners with key customers? Such meetings can strengthen relationships, lead to new business and generate referrals. The





Why not lighten up?

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and the costs of mowing, edging, trimming & clean-up

Whether your goal is to mow every week without getting bogged down or delayed, or whether you would like to skip every other mowing, the benefits of

Embark® PGR are the same . . . big savings of time and labor.

Everett Mealman, President PBI/Gordon Corporation



In light of today's economy and environmental constraints, you *must* reduce these costs. We can help you:

- ☐ An application of Embark Lite can slow down the growth of cool season turf grass for 3 or 4 weeks to such a degree that mowers will virtually glide over the turf. Clippings will be reduced by 50% or more, reducing or eliminating the need for double-mowing, raking, blowing, etc. You'll be able to stay on schedule and budget during the peak growing season, even when there is foul weather or other problems that may interfere with mowing. Your cost: Only about \$18 per acre.
- ☐ A tank mix of Embark Lite and Limit® PGR can slow down the growth of cool season turf grasses for up to six weeks during the major growth period, and reduce the number of mowings by over 50%. The chemical cost of approximately \$45 per acre is appreciably less than the cost of a mowing when everything is considered.
- ☐ A tank-mix of Embark 2.S and Ferromec* Liquid Iron can reduce the mowing of warm season grasses like centipede and St. Augustine by more than 50% for six to seven weeks for only \$45 per acre. (Of course, bermuda costs more, but mowing it also costs more.)

There is nothing on the scene today that more efficiently slows down the growth of turf, thus reducing mowing time, than Embark (mefluidide). How timely, given the current landfill situation. Turf quality needn't be compromised, thanks to a new fine-turf formulation, tank-mixtures, and specific directions for ornamental turf use.

Embark is foliarly absorbed and directs the life energy of the plant away from the development of seedheads and stem elongation, which means that the plant's root mass is not used up in support of excessive topgrowth. Interestingly, when untreated grasses may begin to show the effects of excessive heat and drought, Embark-treated grass actually enjoys a rebound of life for a couple of weeks from the energy that was stored up in the roots.

Embark Lite is the mefluidide formulation especially designed for fine turf. Limit is amidochlor, a root-absorbed PGR which is also a PBI/Gordon product. When tank-mixed with Embark Lite, the Limit helps deliver the maximum duration of growth suppression.

There is almost no end to the creative things you can do with the various formulations of Embark and tank mixes that are available.

Many of these uses are detailed in our PGR Applicator Guide, which we want to send you. It is a road map to efficiency in the management of ornamental turf that can help you meet today's challenge when 85% of the commercial property owners and managers report that they will be seeking competitive bids on their land-scape management contracts this season.

It also contains many management suggestions for using Embark, such as:

- How to guard against discoloration in PGR-treated turf
- How to be compensated for not moving the grass
- Recommended mowing practices for beauty enhancement of PGR-treated turf
- How to use Embark to hasten overseeding establishment or to coax the dominance of one grass species over another
- How to use Embark to dramatically reduce the need for trimming and/or edging
- How to use Embark to suppress seedhead development of Poa annua



For your complimentary copy of the 24-page PGR Applicator Guide, write or call us toll-free.



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FINE TURF REGULATOR

same can be said for writing thank-you notes for referrals, time and advice.

Do you have a way—other than sales calls—of keeping in touch with your clients? Quarterly newsletters are becoming the rule rather than the exception in the landscape contracting, lawn care and even golf maintenance segments of the green industry. They can keep your organization in the minds of customers and inform them of new products or services, company achievements and more.

Examining your company's written materials may reveal areas that need to be strengthened.

Does your logo/letterhead/brochure package convey the image you want it to convey? Look at your material as a prospect would see it. Letterheads and brochures should be kept current, clean and progressive; image is crucial to success.

How effective is the written word? It should position your business in relation to the competition, tell what sets you apart. It should be rich in customer benefits and not steeped in features.

3) Make sure your trade association memberships support your marketing efforts. After all, you pay the dues.

Do you or key staff members regularly attend meetings to take advantage of networking opportunities? Should you modify your schedule to assure adequate representation?

Can you take better advantage of speaking opportunities at association meetings? Can your company or golf course act as host? Is it possible to contribute articles or columns to association publications?

4) Public relations—editorial coverage in your hometown newspaper, to be specific—gives your business a credibility that advertising cannot match.

Do you regularly announce employee promotions or honors to local newspapers? Do you publicize company honors, special high-visibility jobs? If your company actively supports significant social/community endeavors like the Chamber of Commerce, how effective is the coverage you receive?

The importance of planning cannot be overstated. Effective marketing efforts are both carefully planned and consistently implemented.

—The author is president of Adrienne Zoble Associates in Somerville, N.J. and author of "The Do-Able Marketing Plan: Business Survival & Growth for the '90s." The workbook is available through her office by calling (908) 685-8008.

Planning strategies for the green industry companies

If you are bracing for an improved performance in 1992, a budget needs to be developed during these winter months.

by E.T.Wandtke

■ It's not uncommon in the lawn and landscape industries for owners to avoid the rigors of budget-making and budget-following.

As these owners look into 1992, they often say the economy will be better and their businesses will benefit accordingly.

If this is how you are looking at the performance of your company, you should start planning more.

What to plan—Here are types of plans you should be making:

 Your business plan should be prepared before you start the business.
 Annual updates thereafter are essential.

The business plan details why you are in business, what type of services you intend to offer, and your target market. It should include projections of future financial performance, and the persons you have enlisted to do the job.

Banks want to know this kind of information, as it identifies when times of potential stress (or periods of financial need) will occur in the life of your company.

Your marketing plan—a key component of the business plan—needs to be revised and specified annually, usually

three to six months prior to the start of your next business year.

Developing a marketing plan may reveal how little you know about the market. Assumptions and beliefs are easy to come by, but facts and reliable information are not found as easily.

Other components of the marketing plan deal with competition, potential niche opportunities, and the market's economic outlook.

- Strategic plans usually cover a fiveyear period, and are updated each year, two to three months prior to budgeting. A strategic plan defines the strategy you will follow to achieve your five-year objective.
- The budget, which covers a 12-month period, is prepared two to three months prior to the upcoming business year.

The budget details what the company's financial performance is expected to be for each month of the year. Budget preparation takes time; you must examine the prior year's activity, and predict what you think will happen next year.

A budget needs to be developed during the winter months. Some companies dedicate one week of their winter season to budgeting. This is an ideal way of letting all of the employees in your company know the importance of planning.

 Your management plan, or people plan, is developed as part of the business plan and is updated on an annual basis.

Individual strengths and weaknesses of key employees are examined, as a way of defining the type of person who works best in the company. Accomplishments of key employees serve as the basic background

Preparing a budget

A budget is most easily prepared when the following items are listed:

- 1) Services to be performed, and number of customers per month.
 - 2) Materials to be used.
- Labor costs, including expected raises, projected overtime, bonuses and incentives, and the cost of fringe benefits.
- 4) Operating costs, including vehicles, equipment, maintenance and

- repair, fuel and oil, and other equipment operating expenses.
- 5) Administrative or fixed expenses are budgeted, since they tend not to vary much from year to year unless a change occurs in the company's operation.
- 6) Other direct expenses, such as safety costs or license fees are planned based on when they will hit over the course of the year.

-E.T.W.

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of mowing conditions. Reverse gear makes access to tight areas easier, including trailer unloading. And a zero turning radius at the wheel provides excellent maneuverability without scuffing turf.

Crew Kings also have proventough Jacobsen decks, built to take the hard knocks

of everyday work.

The new Jacobsen Crew Kings help turn any day into a walk in the park.

See your Jacobsen Commercial Products dealer today for a demonstration.



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Available in 36" and 48"

for the owner to present to the banker and others advising the company. These advisors will look at the information to evaluate your future potential based on the accomplishments of the goals detailed in your strategic plan.

When to plan—Timing helps considerably in the financial success of your company. Most companies in the green industry need to start their strategic planning in the summer months (June to September) in order to have time to agree on all aspects of the plan. Once a strategic

plan is developed, only selected components will require adjustment over the next five years.

Slowdown or acceleration in the realization of the plan, competitive changes, or other economic variables need to be reflected in the newly revised plan.

How to budget—It's tough to break a budget down into its component parts. Not all aspects of budget development can be prepared without first completing the marketing plan and the strategic plan.

Sales plans are detailed into sales per

month, type of sale, pricing structure to be followed, number of customers anticipated to be sold, advertising to be undertaken, expected results of the various advertising efforts, and promotional money to be spent, including the results of their expenditure.

Once the sales plan is completed, you will need to develop an operating budget. (See list on preceding page.)

—The author is a principle in Wandtke & Associates, a management and marketing consulting firm based in Columbus, Ohio.

For more info, call (800) 966-3546

The bright side of night mowing

To keep golfers moving along the course during the day, one now-famous course has begun to mow at night. Here's how it's done.

■ Coeur d'Alene Golf Course has implemented night mowing. It can work on golf courses and even on commercial contracting jobs.

Superintendent Dan Moore at Coeur d'Alene Golf Course in the tourist mecca of northern Idaho solved a difficult problem with a logical answer.

Question: How to schedule mowing so crews don't compete with the deluge of tourist-type golfers who frequent the course? Answer: mow at night.

Moore's first concern was lighting the course for trim work. It took two months of experimentation with various lights to find the best floods. Eventually, Moore and his crew devised a hardhat mounted with a high-powered floodlight that lights up to 20 feet. The same lights with a 21-pound battery are now mounted on all the self-propelled rotary mowers.

"Our guys get a real workout," says Moore.

Similarly, it took considerable effort to find out Ford tractor lights worked best for night mowing because they throw a wide, even beam as well as use low amperes.

The maintenance scenario goes some-

thing like this: the last tee time is 4 p.m. to allow the maintenance crew to start mowing at 5:30 p.m. Two crews per hole start their carefully choreographed mowing rounds which manicure one-half of the 18-hole course each night.

Toro 223 mowers pull specially-designed carts with hydraulic lifts. This way, mowers can collect tons of clippings before they have to dump their loads.

The sprinklers, with their on-site weather station, fire into gear minutes after the mowers are finished.

The maintenance crew finishes well before the first golfers tee off in the morning.

The resort uses two Toro 223s to mow the bentgrass fairways, three Toro 216s and two 450-D five-gang mowers to groom the bluegrass roughs. The eight-member hand crew works with two Flymos, four regular rotary mowers and four Redmax reciprocating head trimmers to tend the greens, tees and 4.5 miles of concrete cart paths.

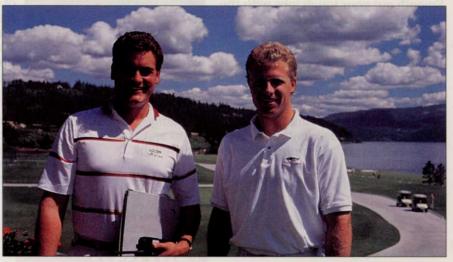
"The biggest hurdle is trying to manicure such massive acreage," says director of golf Mike DeLong. One hundred-twenty of the 150 acres is neat as a formal garden. "The message is that anything is possible, but it takes manpower and equipment."

During the day, one crew keeps the cart paths clean. Another edges nine holes, while a third crew's sole function is to pluck petals off the 25,000 geraniums on the course and resort grounds.

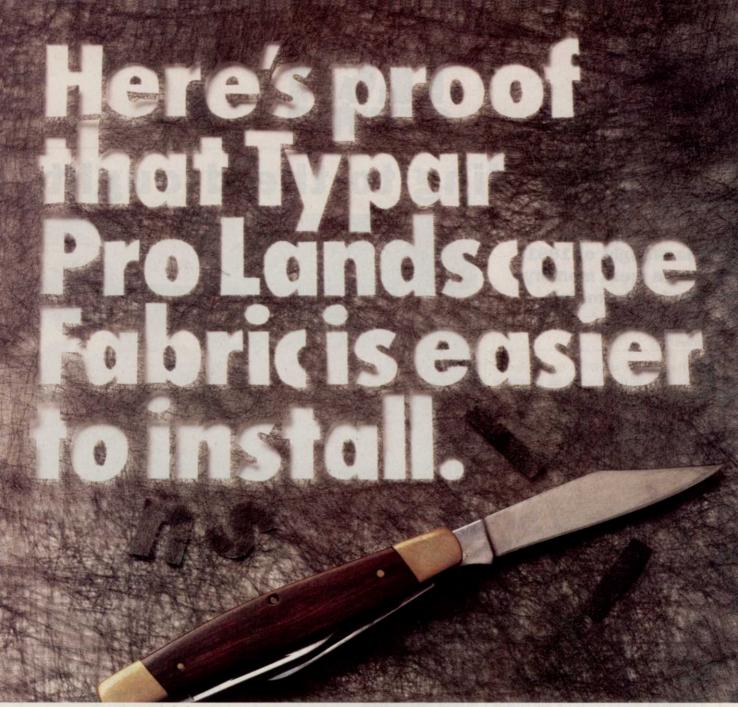
In addition to the geraniums, the course has 46,000 petunias, 3,000 pansies, 25,000 junipers and thousands of Austrian pines. Geraniums are hand-watered with a flood nozzle to prevent blasting delicate petals off the plants.

"The owner (resort magnate Duane Hagadone) is striving to be the best, and wants the golf course to be just as good," says DeLong.

—Leslee Jacquette —The author is a freelance writer based in Edmonds, Wash.



Director of golf Mike DeLong (left) and superintendent Dan Moore initiated the concept of night mowing at Coeur d'Alene Golf Course to cater to tourists.



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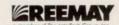
look healthy as well as handsome.

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FOR PROFESSIONALS



TECH

Responding to the drought

Here's how to make the drought of 1991, now a mere memory, pay handsomely.

by Jeff Lefton, Ph.D., Purdue University

- The drought of 1991 is history, but in many parts of the country its aftermath still brings opportunities. Listed below are tips to help maximize customer satisfaction during the months ahead.
- Make customer contact during the winter via letter or phone call. The highest cancel group will be the customers in the two-year-or-less group. Make phone contact with these customers, asking them about their upcoming needs for the spring. This should be a proactive experience.
- Lawns with less than 50 percent turf are prime candidates for dormant seeding. This can be started when the soil temperatures drop to 40 degrees or below. Use a customer leave-behind to explain that the seed will not germinate until late spring. Weed control should not be used until the new seedings are well established.
- An early winter fertilization coupled with a middle- to late-fall fertilization will help thicken lawns. For maximum effect, it should be applied before the turf browns in the early winter.
- Consider starting the early spring production with a granular fertilizer. This will give seedings a boost. In addition, a three-year study at Purdue University has demonstrated that a standard amine salt formulation of a broadleaf herbicide will not show acceptable weed control until late spring. In this same study, the ester formulation was effective about two weeks earlier.
- Use a standard three-way broadleaf herbicide on established turf that has not



been seeded. A research study at Michigan State University showed acceptable weed control in East Lansing through mid-November. This might be important in some areas to help reduce the winter annual (common chickweed and henbit) populations.

- Consider a soil testing service in the early spring. This could include the garden area, ornamental beds or the lawn itself. Identify a good soil test lab and use its expertise in setting up this program.
- Deep root fertilization and pruning are services that should be made available to landscape customers.
- Attend as many technical meetings as possible during the winter. Take all of your employees. After the training session, have a branch meeting and ask, "What did we learn that can make us better?"

Remember that the customer buys your service for two reasons: (1) to feel better about his or her property, and (2) to get solutions to problems. During the months ahead, ask your employees to target their thinking on these factors. Make 1992 a proactive, successful year.

Xeriscaping: Is it the answer?

The seasonal droughts of recent years have focused the public's eye on watersaving landscapes employing xeriscaping techniques.

by Dr. Eliot C. Roberts

■ Town ordinances are being considered in most all parts of the country that would force developers to use xeriscaping techniques when they construct new homes and other structures.

Xeriscaping is a landscaping approach Continued on page 34

ELSEWHERE

IPM or PHC? same care, p. 34 Post-emergence crabgrass control, p. 36