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Foreman Bill Lockwood applies a pesticide to one of Sterling Farms' greens, upon which 65,000 pairs of feet trod per year.

good golf playing surface, the species is plagued with poor agronomic qualities, making it an expensive turf to maintain.

"I've talked to superintendents who spend over a thousand hours hand-watering their *Poa annua* fairways," says Branham. "And, in a difficult year, many superintendents exceed their chemical budgets just spraying fungicides on annual bluegrass."

Branham advises superintendents wishing to control poa in their fairways to use a combination of chemical programs and cultural practices that favor bentgrass or ryegrass. Among the cultural controls he recommends are:

Removing clippings. Clippings contain thousands of seeds, so removing them reduces opportunity for reinfestation.

Using lightweight equipment. *Poa annua* flourishes in compacted conditions. Switching to lightweight equipment such as triplex mowers will reduce compaction and favor growth of desirable species.

Deep, infrequent irrigation. Keeping the course on the dry side encourages growth of deeper-rooted varieties. However, Branham adds, this measure is easier in theory than in practice.

Delayed spring fertilizer application. By applying a later treatment, superintendents avoid giving annual bluegrass a boost before perennial ryegrass starts growing.

Using chemical controls. "Because *Poa annua* is a winter annual, it germinates in the fall and spring, but primarily in the fall," says Branham. "This means you must have a pre-

emergence herbicide in place in the fall.

"The problem is that poa, unlike other grass weeds such as crabgrass, is also a perennial. So every time you have a herbicide failure, you could have 10 to 30 percent conversion to annual bluegrass on your fairway. It doesn't die each year as do annual weeds. This also explains why conventional pre-emergence programs don't work against annual bluegrass."

In his research on annual bluegrass, Branham also has tried plant growth regulators. He has found them to provide sporadic control at best. They cause discoloration to desirable species and work very gradually.

However, Branham has had very promising results in his research trials with Prograss EC Herbicide from Nor-Am. Because Prograss has both pre-emergence and post-emergence action on annual bluegrass, the product both prevents seed from germinating and controls seedling or established plants.

"No matter how good your pre-emergence herbicide is, you'll always have some escapes with it," says Branham. "The beauty of Prograss is that it provides pre-emergence action and picks up those escapes. The timing of Prograss applications is ideal, too.

"While you may see some discoloration from the treatment, it's later in the year, when not as many golfers are playing."

Prograss may be used on ryegrass, Kentucky bluegrass or fairway-length bentgrass with no adverse effects on the desirable species. Rates and timing vary depending on the tolerance of the particular species.

Greg Wojick first used Prograss on a half-acre Par 3 fairway in 1984. He had been overseeding with ryegrass for two years and had a 40 to 60 percent stand. He sprayed Prograss in early August, overseeded two weeks later, and sprayed again a week later.

"The results were astounding," says Wojick. "First the poa got very sick and the turf was thin on that fairway. But after we overseeded, the ryegrass filled in the gaps and everything looked great. It convinced my management that we should go with Prograss on all 18 fairways the next year."

For the last three seasons, Wojick has sprayed one gallon of Prograss per acre on all fairways, followed by an overseeding of 400 to 500 pounds of perennial ryegrass per acre. His second Prograss application is made a month after the first treatment. He now has a 90 to 95 percent stand of ryegrass on all fairways.

Ryegrass instead

Wojick decided to seed ryegrass instead of bentgrass because he wanted permanent grass as quickly as possible. With 65,000 rounds of golf played yearly, Sterling Farms is one of the busiest golf courses in Connecticut. He felt ryegrass would handle the wear-and-tear very well.

Not only is it less nerve-wracking, he adds, but ryegrass is less expensive to maintain. Whereas he previously sprayed fairways with fungicides six times a year, he only treated four times in 1987. He also waters less, practicing the deep, infrequent irrigation recommended for good ryegrass stands.

He applies 3 lbs. of nitrogen per acre per year, and maintains pH at 6.0-6.5 with lime treatments. "Now that I have ryegrass, I think I could easily get bentgrass established if I wanted to," states Wojick. "The *Poa annua* just isn't a problem anymore."

Though he's also used Prograss on roughs, collars and tees, Wojick may skip his fairway applications next year since he feels his poa problem is under control.

As president of the Connecticut Golf Course Superintendents Association, Wojick is in a position to tell many others of the good results he's had on his fairways. However, he also gives them the following advice: "If you have a fairly large percentage of poa, you've got to let your membership know what you're doing before you spray the herbicide. You must realize that the product will work and the poa will die and the fairways won't look good for a while. So let people know you're doing it on purpose." **LM**



Some of life's best lessons are learned in the school of 'soft knocks'

The young man on the left will fall several times before he hits his first home run. The young man on the right wants him to have the advantage of falling on real turf.

We think it's curious that the same lawmakers who insist that individuals and corporations make environment and products safer for children neglect to legislate safer standards for school playgrounds.

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DIVERSIFYING YOUR BUSINESS

Landscapers today find themselves in a more competitive market than ever before. As a result, 'diversification!' has become the cry of the '80s.

by Rudd McGary and Ed Wandtke

Today's landscape market is more competitive because the consumer base has become more saturated. As companies search for ways to recapture high growth rates experienced in the first few years of the company's existence, diversification has become an option viewed by many as the main path to continued growth.

Let's look at some of the reasons—perhaps not the best—why diversification sometimes takes place.

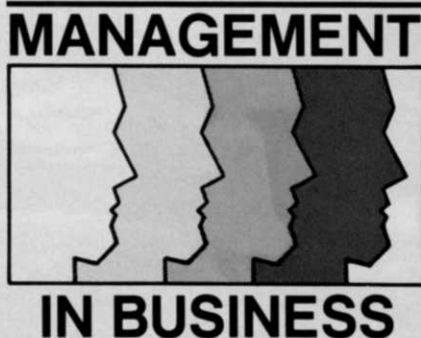
● **Psychological boost.** Diversification offers a psychological advantage for many owners. The startup of a service company usually brings a tremendously high energy period. Everyone works long hours, and, if successful, sees the results quickly. However, as the company matures, this type of excitement doesn't last. By diversifying, the excitement of a "start-up" business can be present again.

Though we often hear owners around the country cite this as their reason for diversifying, it isn't a very good one from a strictly business standpoint.

● **Excess capacity.** Many companies get to a certain point in their growth where assets such as personnel, money, equipment and facilities are under-used.

Diversification is seen as one way of better using these assets. A key question is whether or not you actually need to diversify to use your assets or whether you should remain in the same business and manage it more effectively.

Diversification, because of under-used assets, is alluring to many owners, but it may not be the best way to solve the problem. If you are at maximum market penetration then you might consider diversifying. Remember to look at your current operating practices with a tough eye before



you decide.

● **Available talent.** New employees often bring knowledge of a closely-related industry with them. Some companies diversify when they discover the talent needed to go into a related business is right under their roof.

Once again, this is not a very good reason to diversify into a new business.

● **Loyal customer base.** Companies that have retained customers for a long period often make the assumption that these same people will buy a new service. This is sometimes true, but doesn't take into account the ways in which consumers buy services. This is a fairly common yet incorrect reason for diversifying.

Why diversify?

Some good reasons why you should consider diversifying include:

● **Identical buying patterns.** Consumers are likely to buy services from the same company if the services are compatible in their mind.

If you diversify from lawn care into lawn maintenance, you have the same basic buying patterns. But, if you go from lawn care to pest control, you enter a different set of buying patterns and can no longer assume long-time customers will remain loyal.

A general rule of thumb is: outside services are generally closely related, as are inside services.

● **Saturation in the market.** If your market is now getting to a point where

companies are basically trading customers each year, you should think about diversifying. Saturation usually favors the companies able to afford mass media advertising. If you can't afford such a campaign, you need to find ways to increase your revenue without having to resort to "buying" your customers. Diversifying can be one way to accomplish this.

● **Good management.** Your company must be sufficiently well-run to allow for diversification.

Too many companies try to diversify before they have their primary service under control. Only when your primary business is under control should you diversify.

We compare this scenario to people who expect computers to cure all their accounting woes. If they have a bad manual system, the computer will simply do it faster, not make it a good system.

If you are managing your current company poorly, it's not likely that diversifying will do anything to help you.

● **Market opportunity.** There are times when diversifying makes sense from the standpoint of market opportunity: a company going out of business, a new company moving in, another 3,000 houses being built, the economy strengthening, etc. These might make your diversification a good idea.

You have to be able to analyze and act. When the market says it needs something, usually the first company to react to it makes money.

Above all else, it is important that your current business is strong. Diversifying takes a great deal of time and energy and, if your primary business isn't flourishing, diversifying isn't a wise move under any circumstances.

The market will give you the information you need to decide whether or not to diversify. If you have sufficient depth of management and capital, and the market indicates there is a consumer need, diversification might be the direction to go in order to make your company even stronger. **LM**

Wandtke and McGary are senior consultants with All-Green Management Associates in Columbus, Ohio. Dr. McGary focuses on marketing and management issues. Wandtke focuses on operations and financial questions.



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Circle No. 118 on Reader Inquiry Card

On Design

by Will Perry, managing editor



GameTime, Inc., faced a unique challenge when Temple Israel, the oldest Jewish house of worship in Minneapolis, Minn., selected the playground manufacturer to supply and install new play equipment as part of a \$6 million

construction and renovation project. In addition to the playground, the project included a covered entrance, a fully-equipped 235-seat auditorium, new and enlarged office space, classrooms, meeting rooms and terraces. It involved 20,000 sq. ft. of existing facilities and was the first major renovation of the Temple since the original structure was built in 1928.

GameTime was to install play equipment that would allow as much activity as possible for the children and to do it in a limited amount of space.

GameTime's Durascape play system was selected because of its bright, colorful scheme, the flexibility of design and proven safety features. Temple Israel needed a playground to accommodate both preschoolers and elementary age children, so the company custom-designed a modular structure to offer a variety of activities that would meet the physical development and social interaction needs of both groups of children.

The colorful Durascape system is not only appealing to the children, but also blends well with the buildings and landscape surrounding the play area.

A trike trail runs on the perimeter of the playground and a 42-inch brown chain link fence surrounds the area. Shrubs are planted around the fence for screening and a quiet shaded area with Kentucky bluegrass features a GameTime bench.

Circle No. 200 on Reader Inquiry Card



WHERE THE C

Besides satisfying a large number of youngsters, this Timberform-2 structure by Columbia Cascade Company was chosen for Blue Lake Park, in Multnomah County, Ore., primarily because it's built completely aboveground, allowing the architect to circumvent the facility's irrigation system.

The public park has a large swimming lake, baseball fields and extensive picnic areas. The addition of the playground equipment offers entertainment choices to the younger park visitors.

The play area sits on what was once a baseball field. Its configuration was chosen from the hundreds of pre-designed variations and custom site-specific designs available from the company. Its various elements were chosen and installed in less than a week, according to a Columbia Cascade representative.

The playground is bordered by a 3-foot-6-inch fence with its metal rungs painted to match the yellow in the play structure. The area was constructed next to

a paved picnic area complete with benches and barbecue pit which allows less obvious parental observation. The ground around the play area is bedded by 10 inches of bark chips. The wood used in the play equipment is free-of-heart Douglass fir which is preserved with Niedox-10.

Circle No. 201 on Reader Inquiry Card



Custom Structures Inc. used its "building block" approach to playground design when it introduced this system in a private recreational area in Butler, Pa.

The owner of this particular system wanted to accomplish three things: keep about 15 children of various ages busy, make them work their muscles a bit while playing, and offer them the opportunity to keep their imaginations active.

CSI accomplished this by incorporating two different sections within the playground. At left is an area designed for younger children. Its ramp is easily accessed and the slides somewhat simple. A bubble wall exists to stimulate the user's imagination, possibly

transforming the system into a spaceship or castle in the child's eye.

At the right, separated by overhead bars and clatter bridge, is a more challenging setup for older children. It is distinguished by the spiral slide, wood wall, and more daring approaches.

CSI's play systems are primarily crafted from free-of-heart center California Redwood. They offer a natural resistance to decay, insects and erosion. Its natural stability means it shrinks, warps, and splits less than most other woods.

The company offers custom designs and fabrications, such as this system, that allow the consumer the opportunity to deviate from the normal to meet their own needs.

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Circle No. 137 on Reader Inquiry Card

RESEARCH UPDATE

New cultivars await Great Lakes nurseries

by Doug Chapman, Dow Gardens

The development of new cultivars remains a main thrust of the nursery industry, as evidenced by the many new shade trees and ornamental shrub cultivars now offered in the nursery trade. These plants have been selected or developed for unique morphological characteristics (such as habit, flower color, fruit color, and/or fall color), disease resistance and environmental tolerance.

Nurserymen select and develop these plants for specific regions of the country. Results include low temperature hardiness, adaption to continental climate and sensitivity to photoperiod. The introduction of tailored-superior trees into the trade should reduce maintenance while improving quality.

One university program devoted to the development of new cultivars is at the University of Minnesota. This program is designed to introduce plants that are extremely cold temperature hardy but adaptable to continental climates. Several of Minnesota's current introductions include Northern Lights azaleas and Northwood red maple (*Acer rubrum* Northwood).

'Northwood' red maple is so well adapted to the continental climate that it is one of the first *Acer rubrum* cultivars to develop fall color. Further, it is completely winter hardy.

Michigan State University and Dow Gardens in Midland, Mich., have spent years developing new propagation techniques for clone introductions. Welsh and Sink, at Michigan State, were early researchers, developing techniques for tissue culture production of *Acer rubrum*. At Dow Gardens, we have worked on techniques for propagation of trees by cuttage. Some of the most notable that can be propagated by cuttage include: *Malus* (M.) Donald Wyman, M. Mary Potter, M. Profusion, M. Red Jewel, M. Sugar Tyme, M. Snowdrift, and M. Selkirk; a number of maples, such as *Acer* (A.) griseum, A. ginnala, A. campestre, A. rubrum and A. saccharum; and *Tilia cordata* cv.

This type of research helps circumvent the graft incompatibility problem that was noted earlier by Davidson with red maple (*Acer rubrum* cv.), ash (*Fraxinus* cv.) and Sovereign pin oak (*Quercus palustris* Sovereign).

Crab apple (*Malus*) has become an

extremely important landscape plant from the Midwest to the Northeast. Disease posed the single largest problem related to everyday use of crab apples. Although other plantsmen are working on the problem, two nurseries doing the most with the introduction of fireblight and apple scab-resistant cultivars are Simpson Nursery in Vincennes, Ind. and Lake County Nursery Exchange in Perry, Ohio. A few unique cultivars that these two nurseries have introduced include: M. Sugar Tyme, M. Brandywine, M. Molten Lava, M. Candied Apple, and M. Centurion.

Beware of origin

With the introduction of new cultivars, the nurseryman must be particularly sensitive to where the plant was developed or selected. Further, a testing program must be initiated to determine if these plants will grow in certain areas.

Curt Peterson, Ph.D., at Michigan State, working with the Michigan Association of Nurserymen, is setting up a series of shade tree and ornamental shrub evaluation plots that should give information to the nursery industry about the acceptability of these plants to culture in the Great Lakes region. This exciting new area of research will focus on growing plants in three distinct zones in Michigan: the Detroit area, East Lansing and Cadillac. Further, they are working with other universities in the region on data collection so that other states evaluating these new cultivars will have uniformity in reporting results.

This type of research is analogous to the shade tree evaluation plots that were developed by the Ohio Nurseryman's Association in cooperation with Ohio State University. Those shade tree plots located at the Ohio Research and Development Station in Wooster, Ohio, have resulted in significant contributions and have given some direction for the Ohio nursery industry. The research, jointly conceived by Peterson (at M.S.U.) and the Michigan Association of Nurserymen is where much of the action in the coming years will be.

No one is suggesting that clonal production is the only direction for the nursery industry, but it is one current thrust that should be researched.

LM

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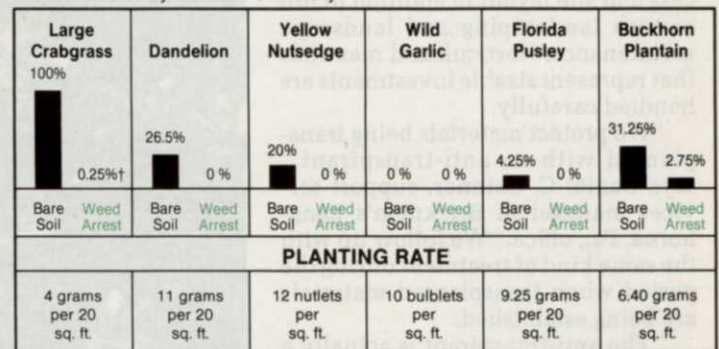
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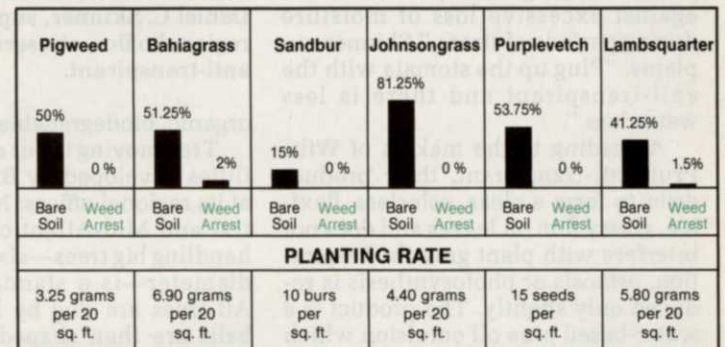
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Keeping profits in the plant

The large investment today in landscape plant materials makes even minor losses intolerable. This is true for both buyers and sellers. Landscapers and owners therefore seek the same goals—quality and livability.

Brickman Industries, Inc., operates one of the largest design and build landscape firms in the nation. Quality is a standard. Brickman deals with developers and owners on zoning, access and site layout in addition to full service landscaping and landscape maintenance. Horticultural materials that represent sizable investments are handled carefully.

"We protect materials being transplanted with an anti-transpirant," says Daniel C. Skinner, support services manager at Brickman's Langhorne, Pa., office. "We follow up with the same kind of treatment during the period when transplanted materials are being established.

"The anti-transpirant is actually a waxlike coating which protects leaves against excessive loss of moisture during periods of stress," Skinner explains. "Plug up the stomata with the anti-transpirant and there is less water loss."

According to the makers of Wilt-Pruf anti-transpirant, their product dries to form a clear, colorless, flexible, glossy film on leaves and does not interfere with plant growth. Respiration, osmosis or photosynthesis is reduced only slightly. The product is a water-based pine oil emulsion which is not damaged by freezing and is an



Daniel C. Skinner, support services manager at Brickman's Langhorne, Pa., regional office, stresses the importance of protecting new plantings with an anti-transpirant.

organic, biodegradable material.

Tree moving is but one of the specialties developed by Brickman crews at its regional offices: Northeast, Central and Mid-Atlantic. Skinner says handling big trees—six to 15 inches in diameter—is a standard operation. All trees are dug by hand; the root balls are then shaped and wrapped with burlap.

"We have a 99 percent success ratio in moving big trees," Skinner says, pointing out that the biggest tree moved to date weighed 80,000 pounds. Applying an anti-transpirant greatly reduces the shock when trees are dug.

"We spray the tree with the anti-transpirant the day before digging," Skinner says. "We have been using Wilt-Pruf at a one-to-five ratio which is very cost efficient—so much so that we use the same one-to-five strength mix on materials being held and on newly-established landscape materials.

"We buy heavily from nurseries, and we often specify that trees or other materials be sprayed with an anti-transpirant the day prior to digging for delivery, just as we do in our own nursery. Our own crews also prune out one-third of the foliage on big trees in addition to spraying with the anti-transpirant ahead of digging.

"On new contracts, our people

often come on site ahead of the bulldozers and move trees out to be held for later planting as part of the new landscape design. In these instances, trees being held for replanting are sprayed every 30 days with a one-to-five strength anti-transpirant mix. We do the same for trees and other materials held over the winter."

At the Langhorne headquarters, the nursery is filled to capacity each fall since Brickman crews plant year round in the territories of both eastern regional offices. Planting throughout the winter is common in the East. Any materials coming from Midwest nurseries must be brought in before freezing weather eliminates digging.

"We spray these trees every month," Skinner says. "We do the same during the winter for the majority of the plantings we have made the prior season."

Brickman, long known as a major landscape and architectural contracting firm in the northern Illinois area, opened the Langhorne office eight years ago. Because of the demand for services, this unit has greatly expanded. Business has grown tremendously in each of the past three years. Sixty-five full-time and 200 hourly employees are needed to serve customers. **LM**



Brickman Industries' spray operation includes spraying anti-transpirant on new landscape plantings to prevent dessication.