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Guaranteed Analysis

Total nitrogen (N)	32%
0.8% ammoniacal nitrogen	
24.8% urea, methylene urea nitrogen	
6.7% water insoluble nitrogen	
Available phosphoric acid (P ₂ O ₅)	3%

Scott's ProTurf

GUARANTEED ANALYSIS

Total Nitrogen (N)	32%
5.0% Water Insoluble Nitrogen	
3.0% Urea Nitrogen	
Available Phosphoric Acid (P ₂ O ₅)	3%
Soluble Potash (K ₂ O)	9%
Magnesium (Mg)	10%
Sulfur (S)	5.0%
Iron (Fe)	1.0%
Manganese (Mn)	0.0%

Nutrient Sources: Urea, Methylene Urea, Ammonium Phosphate, Ammonium Sulfate, Ammoniated Superphosphate, Sulfate of Potash, Oxides, Ferrous Sulfate, Sulfates.

Potential Acidity Equivalent 1300 lbs. Calcium Carbonate per Ton.

Lebanon Country Club

GUARANTEED ANALYSIS

TOTAL NITROGEN (N)	24.0%
1.6% Ammoniacal Nitrogen	
13.6% Urea Nitrogen	
10.8% Water Insoluble Nitrogen	
AVAILABLE PHOSPHORIC ACID (P ₂ O ₅)	4.0%
SOLUBLE POTASH (K ₂ O)	12.0%
Magnesium (Mg)	0.7%
Sulfur (S)	5.0%
Iron (Fe)	0.4%

Derived from ammonium phosphate, isobutylidene diurea, urea, sulfate of potash, sulfate of potash-magnesia and iron sulfate. Potential Acidity 1000 lbs. Calcium Carbonate Equivalent per ton.

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If the percentage of Water Insoluble Nitrogen isn't listed, there isn't any slow-release Nitrogen. If it is listed, chances are it won't be as high as the WIN percentage in Par Ex. Even if it is, we guarantee you that 100% of what we list as WIN is available to your turf every growing season. That means for every six months of growing, you'll receive an additional 46-53% more usable WIN than our competitors can deliver.

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par ex
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From tearing up turf to laying down sod

LANCASTER, Calif. — Wendell Tyler has gone from tearing up turf to laying down sod.

The former Los Angeles Ram and San Francisco 49ers running back has come to the Antelope Valley, the desert area of Los Angeles County, to start a lawn care business. In June, Tyler launched All-Pro Lawn Care, which specialized in lawn care for commercial properties.

Tyler wants to apply the same drive he had in football to his new business.

"It's like being at Pop Warner all over again—a pro Pop Warner," he says.

Tyler, 34, retired from football three years ago, but he still looks as if he could play the game. The 5-foot-10, 180-pounder still appears to possess excel-

lent upper body strength.

References to his football past pop up often in Tyler's conversation. He believes his football background will help him in business.

"From football, I have dedication, discipline and determination," he says. "I believe that if you work hard you can do anything you want to."

Tyler speaks constantly about the virtues of having dreams and working hard to fulfill them.

"I'm always working, always dreaming. I've got goals. That's what's wrong with some people—they just don't dream," he says.

If championships are a measure of success, then Tyler's football career was a successful one. As a collegiate, he played in a Rose Bowl with UCLA, and as a



Wendell Tyler (left) and his ace worker Jahmal Taylor.

professional he played in two Super Bowls. He earned a World Championship ring with the 49ers when they pounded Miami in Super Bowl XIX.

"The Super Bowl is just a game," he says now. "Winning the Super Bowl is like a business deal. You have business to take care of. Not only do you cut the deal,



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PESTICIDES

New pyrethroid is approved by EPA for use by lawn care companies

KANSAS CITY, Mo. — The EPA has accepted registration of Tempo insecticide for use on home lawns.

Tempo, an advanced-generation pyrethroid from Mobay Chemical Corp., was introduced for indoor pest control and ornamental insect control in 1988.

"Tempo can be used effectively at lower rates of active ingredient than most organophosphates, carbamates and other pyrethroids on the market," notes Mobay marketing manager Hal Paul.

Tests show Tempo to be compatible with commonly-used fungicides, liquid fertilizers and other insecticides in tank mixes. Mobay is also promoting Tempo for tick control in response to concerns about Lyme disease nationwide.

Registration for use on commercial turf and golf courses is pending. □



NEXT MONTH:

- LM's "State of the Green Industry" report
- Part 2 of Dr. John Briggs' "Bio-Controls for Turf"

but you wrap up the deal."

His football fame has opened up some business opportunities for him.

"I am doing a job for a Cadillac dealer and I could see that he respected me. It was, 'Hey, I'm working with Wendell Tyler,'" he says.

Word-of-mouth will spread faster if the job is done right, Tyler notes. But it will also spread fast if the job is done wrong.

"The key is service: be there on time, do what you're paid to do, and do the job the best you can," he says.

One of his workers is foreman Jahmal Taylor, a 20-year-old with an unusual background: 10 years as a member of the Crips, a Los Angeles street gang.

Taylor used to walk the streets, armed with a .357 Magnum, selling dope. Tired of gang life, Taylor sought out the Inner City Youth Ministries Academy in Rosamond.

The academy, established by Tyler and former gang member Jojo Sanchez, is a place where troubled youth go to straighten out their lives.

Tyler's All-Pro Lawn Care serves as an occupational training program for the youth academy.

Tyler was attracted to the Antelope Valley because of its rapid growth. The area is one of the fastest-growing regions in the country. The population of the area's two principal cities, Lancaster and Palmdale, grew from a combined total of 60,304 in 1980 to 128,500 this year.

Tyler started his business on the advice of a developer who told him to take advantage of the construction boom. The rapid growth of the area has provided Tyler with a pool of ready customers, and he is reaping the profits already.

—James Skeen □



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WINTER, A TIME OF R&R FOR YOUR EQUIPMENT

Like your body, landscaping equipment can last longer if you take care of it year round. Shenandoah Valley Golf Club has found secrets that increase its machines' life expectancies.

by Jay Holtzman, contributing editor



The thorough off-season maintenance performed by mechanic Calvin Smith (l) at Shenandoah Valley Golf Club allows superintendent Eric Linde (r) to clip about \$15,000 from his annual equipment budget.

If you're like most landscape professionals, you push your equipment pretty hard during the busy season. The job demands it. But just as demanding is the stress and strain on equipment. Machines that are used hard must be carefully cared for, and the off-season is the perfect time to completely clean, inspect, repair and refurbish equipment which has put in a long season of work.

Not that any once-a-year routine can make up for a failure to maintain mowers, trucks, hand-held equipment and other machines throughout the year. Proper maintenance has to be a constant effort. But winter is the season when there aren't any excuses for failing to do the job 100 percent.

"There's a lot you can do in the off-season," says Eric Linde, superintendent of the Shenandoah Valley Golf

Club in Front Royal, Va. "In fact, it's the one time of year when we can really be thorough with our equipment.

"This time of year also gives us the leeway to let a piece of equipment go down for quite a while. During the season, we have such demands on the equipment that we can't let it go down."

The off-season is the time to go back and make perfect those repairs that were done expediently rather than the best way during the season, Linde explains.

"Let's say a piece breaks on a tractor during the season. We may weld that piece together while it is still mounted on the tractor because we need to keep using it. The winter time allows us to go back and fix that thing once and for all. We can examine the

source of the problem and address it at that point."

By the same token, the off-season allows time for careful and thorough maintenance as well, and that starts with cleaning the equipment.

"Typically, when a piece of equipment goes out of service for the year, it will be steam-cleaned from head to toe," Linde says. "That means all the cowlings and everything else will come off the machine. Then it is painted, too, if it's required.

"It's also the time of year when we have time to rate batteries, go over belts and hoses that aren't often seen, and examine all the other parts that can deteriorate or wear."

Two-fold maintenance

It's a period when you can get ready for the coming of spring as well as catch up from the previous season.

"That's when we do things like pack all the wheel bearings. It might be that a certain truck only needs to be packed once a year, or even once every two years. But we can't afford to let it wait. We don't know how much we are going to use that piece of equipment next season; that's why our annual maintenance program goes much further. In the summer if a brake feels bad, we adjust it. But in the winter, we pull the hubs, examine the brakes and do what's necessary," Linde explains.

Autumn's annual maintenance chores are scheduled by Linde and his full-time mechanic, Calvin Smith, together. "Calvin and I will schedule how we want to go through this period, because we often run our dump trucks and some other equipment well into the season. Then he directs from there," Linde says.

Formally scheduling a full maintenance program in the off-season helps Linde maintain a crew of 13 year-round out of a summer season peak of 20 persons.

This crew not only maintains the

Disposable equipment?

As careful as most professionals appear to be about maintenance—everyone stresses the need for a good, year-round maintenance program—many find that some small, hand-held equipment such as string trimmers don't repay careful maintenance in the same way as larger machinery.

"We almost always replace trimmers every season," explains Tim Haney, executive director at Woodlawn Cemetery, Toledo, Ohio. "We are using them about 40 hours a week through most of the summer and up until the leaves fall, and some 55 to 60 hours a week in the spring. Somebody told me that was like driving a car 250,000 miles."

Adds Eric Linde of Shenandoah Valley Golf Club: "We go out and buy a good one and then we find someone local to maintain it, but after it starts to develop downtime for little things, we just throw it away. Don't hang it on the wall because it isn't going to make you any more money. When a guy in the field needs one of these, he needs it to work. In the contracting business it gets down to the minute as to how we are going to make our money and if something like that doesn't work, it's just like you're throwing money on the ground."

Even equipment like string trimmers that many professionals consider disposable can play a role in keeping crews working effectively.

"I try to hold onto our trimmers until about the first week in May so that when the guys start to get discouraged with the old ones, I can break out the new equipment," explains Haney. "That way, they work more efficiently through Memorial Day, which is obvi-



ously a key time in our year. This has worked out well because the guys feel good about the new trimmers and the novelty doesn't wear off before the holiday."

—Jay Holtzman □

27-hole golf course, but works for a related outside contracting service with annual volume of some \$250,000. All in all, they maintain a fairly large stable of equipment, including eight triplex mowers, two rough units, two fairway units, three tractors, a backhoe, assorted utility and pickup trucks—the equipment for what Linde calls "a well-equipped 27-hole course"—plus the compressors and air-conditioning system for the clubhouse.

"We're not undercapitalized at all," Linde notes, "so we're very mainline in equipment: Toro and Jacobsen mowers and Chevy trucks. We buy what we feel is best."

Divvying it up

Once the work is scheduled, the mechanic and crew divide it between them.

"When it comes to ordering parts and the technical stuff, the mechanic does it. But most of the time he tries to get our full-timers to work on a single project each," Linde explains. "If we are doing a brake job on a dump truck, for example, one of the full-time crew will get the truck up on jacks, take the wheels off and clean out the drums. Then Calvin

can take a look at it."

One man generally stays with the job until it is done, he says.

"We try to put the guy on a job until it's completed. If the job requires parts, for example, then he runs to get them. He does all the set-up work and helps finish up when Calvin is done. The mechanic does the actual repair. But it helps make the guy feel better

It's a period when you can get ready for the coming of spring as well as catch up from the previous season.

about the operation when he can stay with a job all the way through," Linde explains.

As thoughtful as this approach to maintenance is, Linde stresses that though it's thorough, it isn't fancy.

"Our place is looked on as a model by the equipment manufacturers. But we aren't doing anything fancy like X-raying the equipment. We're just

being very thorough with what the manufacturer suggests," he says.

Such a thorough approach to end-of-season maintenance, and to maintenance in general, requires good organization. Linde has found a simple tool that he says has been a tremendous help in keeping his shop in order: a large metal file like those found in auto parts and hardware stores for holding catalogs.

"This file holds our entire collection of parts books, maintenance manuals and other paperwork that comes with the equipment. It's the heart of our shop; it's what our inventory is based on," he says. "Whenever any piece of equipment comes in, the paperwork goes in this file. Anyone can go in there and look up a part or find the schematic drawing for what they're working on. If they're working on a machine somewhere else, they can come in and find the manual they need and take it with them. If we need a part number or a phone number, we don't have to dig through a drawer. It's right there," Linde notes.

Best of all, as effective as the file is, it was inexpensive—just \$125.

"I rate my equipment by how many years it should last," Linde relates. "And it's outlasting the years I

\$\$ saved = \$\$ earned

By and large, there are plenty of good reasons to pay careful attention to your equipment's winter maintenance program. Most professionals agree that every dollar spent on maintenance is a dollar invested that pays itself back.

"We spend many, many dollars on maintenance, but it's still the cheapest thing to do," says Herbert Brown, superintendent at Wandermere Golf Course in Spokane, Wash. He points to the high cost of equipment as one of the best reasons for giving maintenance practices close attention.

"When you were paying \$3,500 for a greens mower, people used to trade them in every few years and get a new one. But now you're paying \$12,000 or \$13,000 for that mower, and you can't afford to trade it in every three years. You've got to maintain it and keep it."

Such maintenance pays for itself in the examples Brown cites.

"I've got a 1974 fairway mower that was \$9,000 when I bought it and that now costs \$35,000 (comparable model new). It's still running well because of its maintenance. I've also got a 1977 greens mower that's still like new," he says.

—Jay Holtzman □



It's more cost effective to sink money into maintaining equipment than replacing it, says Shenandoah Valley mechanic Joe Casteel.

project for it because my mechanic is so good about taking care of it. For example, I've got a 1978 greens mower that is supposed to last six years. Six years is enough. But it is

still dependable, even though we now use a back-up unit."

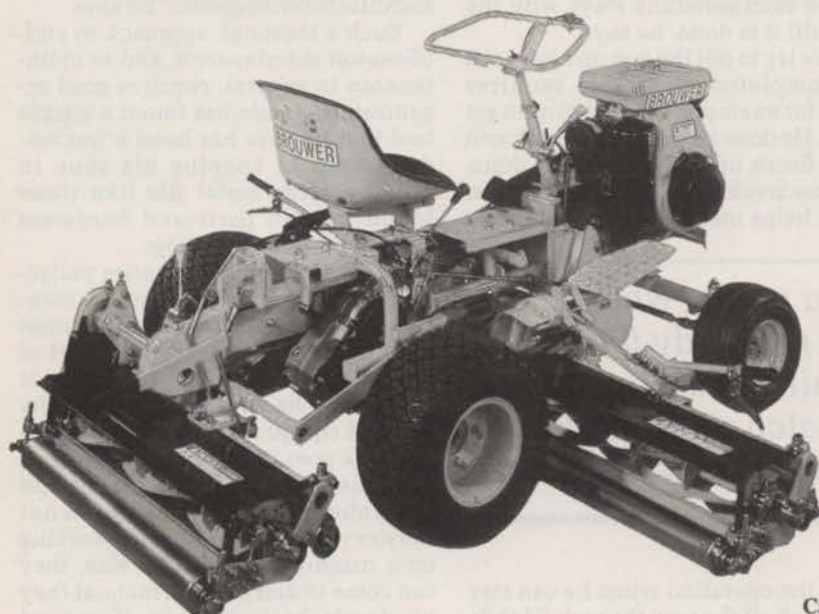
This has a direct and positive effect on his budget.

"We figure we have to spend about

\$50,000 a year on equipment, but for the last couple of years I've said we can do fine on \$35,000. I can go to the board of directors and say we don't need to buy all that equipment." LM

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PROJECT PROFILE



The Shiki-En, or Four Seasons Garden, laces its way through the office buildings of Bannockburn Lake Office Plaza in Lake County, Illinois.

EAST MEETS WEST IN SUBURBAN CHICAGO

Japan's latest export is the serenity and peace of its gardens, which one developer used to further soften his suburban Chicago office complex.

by Will Perry, managing editor

When real estate developer Allen S. Pesmen left his downtown Chicago law practice, one of the things he didn't miss was the congestion and inconvenience of city life. And when he carved his beautifully landscaped Bannockburn Lake Office Plaza out of the woodlands of undeveloped suburban Lake County, he made sure the only thing he brought in from the city was tenants.

The Plaza is a 66-acre development with three (soon to be four) 106,000-square-foot buildings and a health club. Begun in 1977, it was the first of its kind in then-undeveloped southern Lake County.

After 22 years of commuting to

and from the Loop, Pesmen decided he wasn't the only one who would enjoy working in an environment where ponds and trees replaced parking lots and telephone poles. The park's 100 percent occupancy rate attests to Pesmen's accuracy.

Downtown alternative

"It's mostly a whiplash from working downtown," says Pesmen of the Plaza's serene campus. "There the emphasis is up, up, up. If you're really socially conscious in the city, you'll stick a plant in a container box and put it outside your door. Here we've created a peaceful environment that doesn't attempt to be 'the city transported to suburbia.' It's quiet,

relaxing..."

The park's most recent addition is an authentic Japanese garden that will eventually cover 10 to 11 acres of the complex. The garden's inspiration came from Pesmen's fascination with similar gardens in the U.S. and particularly Japan, where gardens offering peace and tranquility exist in the heart of dense, unattractive urban centers. In effect, such gardens mirror the concept of his office complex as an alternative to an inner-city location.

The garden was designed by Takeo Uesugi, Ph.D., a principal of Takeo Uesugi & Assoc. of West Covina, Calif. Uesugi, 48, is a professor of landscape architecture



Chicago's regional landscape is captured in the form of waterfall, stream and the overall "lake-scape" effect of the garden.



The Japanese garden is based upon an ancient garden design book, *Sakuteiki* (1040 A.D.), where traditional techniques are expressed in the planting, mounding, stepping-stones and methodical rock arrangements.



Allen S. Pesmen, left, president of Bannockburn Park Concepts, Inc., and his son Brian.

at California State Polytechnic University in Pomona and a 15th generation landscape architect.

Other Uesugi projects include the Japanese American Cultural and Community Center Garden in Los Angeles, the Naiman Tech Center, San Diego, and Epson Madrona, in Torrance, Calif. Pesmen believes that the Bannockburn garden, *Shiki-En*, or Four Seasons Garden, will be the largest private Japanese garden outside California.

Garden makeup

The first phase of the garden features a tea house, waterfalls, lanterns and bridges. Plants common in Japanese gardens and adaptable to

the Chicago climate are incorporated among existing woods and lakes. Pine trees provide dignity and durability. Willows express flexibility. Magnolias enchant. Crabapples, plums and redbud capture the sense of spring. Maples and river birch capture autumn. If he can find a variety of bamboo that can withstand the harsh Midwest winter, Pesmen hopes to plant it as well.

The garden holds more than one million pounds of boulders brought in from Wisconsin and North Carolina, as well as Nitto granite from Japan. The boulders are white to dark grey in color, rough to intermediate in texture, and rugged to tranquil in form. The

Japanese concept of *In and Yo*, or negative and positive, and the numbers of 7, 5, and 3 are incorporated to achieve symmetrical balance in the garden.

Two islands reach into the main pond, symbolizing a turtle and a crane which represent longevity and cheerfulness, respectively.

Bannockburn Lake Office Plaza has an in-house landscape crew. Pesmen says maintaining the garden has been a new yet welcome challenge for them. Ornamentals were planted by the Theodore Brickman Co. of Long Grove, as well as a commercial division of Amlings Nursery of Hinsdale and Miles Lindblad of the architecture firm of Krucek and Olsen. **LM**



Above: An immature nematode photographed at 300x. Nematodes are an important biological control agent, multiply in the body susceptible insects and carry a bacteria that cause physical damage and rapid death.

Left: Millions of microscopic, immature nematodes hatching from eggs laid inside a caterpillar. The nematodes are searching for additional insects to invade and quickly destroy (photos courtesy of Dr. Briggs).

BIO CONTROLS FOR THE GREEN INDUSTRY

Biologicals gain more acceptance as safe and effective alternatives to chemical pesticides.

by John D. Briggs, Ph.D., Ohio State University

Landscapers and horticulturists face questions from employees, the general public and clients about virtually every material they use.

Recent governmental safety investigations have provided some level of confidence in the products. But the result is increased time and costs for landscapers to explain their practices to clients.

In the past 25 years—particularly in the past decade—safe and useful alternatives to conventional pesticides have received serious attention. (Especially since government regulatory agencies have increased and refined manufacturer and applicator guidelines through federal, state and local legislation.)

Biological alternatives to conventional chemical pesticides are referred to by federal agencies as "bio-rational" agents. Manufacturers continue to center on bio-rational agents that attack and cause diseases of insects, mites and certain weeds.

Micro-organisms cause disease

The five principal groups of micro-organisms that can cause diseases of insects are bacteria, fungi, viruses, protozoa and nematodes. From these groups, bacteria, fungi and nematodes are used to market products to the landscape market (Table 1).

Milky spore products for long-term control of Japanese beetle grubs contain bacteria. These products have been under development and suc-

cessfully sold under different trade names in the eastern U.S. for almost 50 years. They contain the resting spores of *Bacillus popilliae* formulated as a dust for application to turf. *Bacillus popilliae* spores physically damage the mid-gut and growth of the bacteria in the body cavity of beetle grubs.

For the past 30 years, another bacteria, *Bacillus thuringiensis*, has been produced and marketed by 20 different companies for managing populations of larval forms of some species of flies, beetles and moths. These products are often referred to collectively as "BT." Several manufacturers in the U.S. have registered formulations of bacteria with the EPA and USDA for landscape use (Table 1).