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**Cytospora Canker** (*Cytospora kunzei*).

You can control this weak pathogen by pruning out cankered branches and fertilizations.

The symptoms include single branches thinning and dying with white resinous ooze appearing on the branch or trunk.

There is no presently-known fungicide that is effective in control of the disease. Laemmlen reported one way to reduce the chance for infection would be not to prune during the spring months.

His studies suggested the major spore responsible for primary inoculation is ascospore. These ascospores are released during the spring months, thus partial control might be to avoid spring pruning.

A total review of the conditions that encourage *Cytospora Canker* of spruce shows it is a weak pathogen and, in fact, a disease of older, stressed, or injured trees. Further, some spruce are more resistant to this particular disease.

Knowing this information, there are several things we can do. First, one should be alerted to relative resistance of species. Spruce ranked from least to most susceptible are: Serbian, Engelmann, Oriental, Norway, White, and Colorado Spruce.

This simple listing is one good reason why we should reduce the number of Colorado Spruce used in the landscape.

For many years *Cytospora Canker* has been known to be a disease of weakened or stressed trees.

### Stress

Recently, Schoeneweiss reported drought to be one possible reason for increased susceptibility, but he further stated at a seminar held at Michigan State University that the key for infection and ultimately, canker formation, is stress.

Therefore, frequent watering and fertilizing would help reduce the chances of this infection. Furthermore, since ascospores are released during the spring, spruce pruning should be de-emphasized during the spring months.

Lastly, as spruce trees become older and slow down in vigor, they are more susceptible to infection.

There are many factors to consider when using spruce: susceptibility to insects and diseases; tolerance to chlorides; tolerance to wet or dry soils; and climatic adaptation.

Relative susceptibility to *Cytospora Canker* is the major pathogenic consideration.

One should keep in mind that diversity, no spring pruning, and use of all spruce types in the landscape reduces the chances of any one species being devastated.

When considering diseases and environmental tolerance, each spruce has a niche in the landscape. **WT&T**

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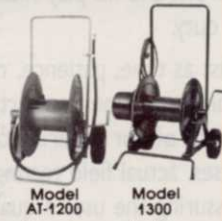
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# TECHNICAL PERFECTION VS. COST

by Rudd McGary and Ed Wandtke

Letting the client know what can be done within the budget, coupled with your technical knowledge, are the keys to maintaining good client relationships.

The greens committee can't believe that the greens don't look like billiard tables with the money they allocate to you. The homeowner can't understand why his lawn doesn't look beautiful in the early spring. The apartment complex manager doesn't understand why you didn't spray pre-emergent materials on his property.

Do any of these sound familiar?

They are classic issues of technical perfection vs. cost.

Given enough money, almost anything is possible. Since most organizations don't have unlimited budgets, we can forget about the concept of throwing money at a problem to solve it.

In the lawn service industries the constant job of the superintendent is to achieve the best possible results within the constraints of a fixed operating budget.

There are some keys to doing this and they rest with the people who use the service.

## 1. Expectations

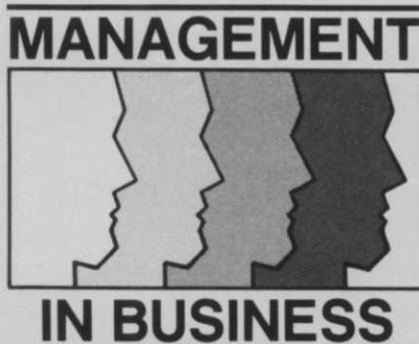
"What do the people who are getting the service want?" is the question that starts the process.

Do they want perfectly dressed greens, a greener lawn, a better looking landscaping job?

What is the key for their decision to say yes to your services? Unless you know what they want you can't de-



Wandtke and McGary are owners of All-Green Management Associates, Columbus, Ohio.



sign an agronomic program that makes any financial sense.

## 2. Expectations vs. reality

Many people have no idea of the costs involved in lawn services. In particular golf course committees are seldom made up of people with any type of agronomic background.

Their expectations must be addressed with factual information

*With a given budget, you must be able to explain what is possible and impossible to obtain in terms of final results...explain the options.*

about the costs required for technical perfection.

Unless you're working for an academic institution which has enormous grant funding, you won't be able to give technical perfection. (Being non-profit doesn't mean that you don't have to watch your budget.)

## 3. Options

There must be options offered to keep everyone involved happy. With a given budget, you must be able to explain what is possible and impossible

to obtain in terms of final results. You may want to hold a negotiating session where options are explained.

Certain results are preferable to others and they are the most important options for the buyer of the services.

## 4. Trade-offs

The general result of any lawn service organization is an impressive turf. There are going to have to be trade-offs to come up with the best possible looking turf and these are ones made on agronomic information.

Making the turf look acceptable to the end user is the key. You may know that the final result isn't the best possible but you also have to trade that off with the budget constraints within which you're working.

## Working within the cost

The keys to technical perfection vs. cost revolve around your agronomic background, your programs for the turf, and the results desired by the people who pay the bills, the consumers of your services.

In the chemical lawn care arena the consumers generally don't care about what it is you do; they want a green lawn.

With golf courses, the expectations may be higher but the key is to get a clear picture of what the committee wants.

You should be prepared to explain what you can do within the budget that is being proposed.

In the maintenance end, you must make clear the services offered, particularly if you are in a bid situation.

Technical perfection vs. cost comes down to a very simple equation: knowledge of the agronomic possibilities together with the results expected by the end user are the two keys.

Letting the people know what can be done within the parameters of cost comes down to putting these two variables together in such a way that you have come the closest you can to technical perfection while keeping the cost acceptable. **WT&T**

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Bob Sowers (right) and Rhone-Poulenc turf products sales specialist Chuck McGilloway discuss disease control on one of Sunnybrook's immaculate greens.

## SMALL IS BEAUTIFUL

Sunnybrook super Bob Sowers makes the most out of a modest operating budget, keeping the course maintained to tournament standards. Though difficult, it's not an impossible task.

**M**any superintendents of private, limited-membership golf courses have at least two things in common, a membership that demands first-class playing conditions and a modest operating budget. Sunnybrook Golf Club in Plymouth Meeting, Pa., with a membership that holds steadily year after year at about 280, is no exception.

Bob Sowers, superintendent at Sunnybrook since 1970, has learned by necessity to prudently manage his budget and his course without

compromising the quality of play at the Club.

Designed by William Gordon and constructed in 1954, the 6,800-yard par 72 course gets a meager 12,000 rounds of play per year. However, Sunnybrook annually hosts the U.S. Women's Amateur and U.S. Senior Amateur tournaments. So despite the relatively light daily play, Sowers, his assistant Fred Ammon and a fulltime crew of two men must keep Sunnybrook maintained to tournament standards.

When it was built, Sunnybrook

was surrounded by farms and woods. During the past 15 years, the rolling hills of Montgomery County, which adjoins Philadelphia, have been sprouting homes instead of crops. Sunnybrook was carved out of the heavy clay soils characteristic of southeastern Pennsylvania. Unlike most soils in the Northeast which are in the acid range, the soil at Sunnybrook is slightly alkaline because the course abuts a limestone quarry.

"On windy days you can see limestone dust blowing across the

**Aquashade can make your serene pond or lake so beautiful, without harm to humans, fish, wildlife and turf.**

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## Ford compact tractors

Ford 1000 Series tractors give you powerful working capacity with compact-size maneuverability for a wide range of mowing, loading and site preparation needs.

There are six models, from 13 to 32 engine horsepower. These hard-working diesels come standard with 540 rpm PTO, 10 or 12-speed transmission, full-time live hydraulics, and a Category I three-point hitch.

Options include front-wheel drive. Hydrostatic or synchronized manual shuttle transmission, depending on model. Creeper speeds. Turf tires, and more. Over 50 matching attachments and implements are available.



## Ford commercial mowers

These mowers are designed for grounds maintenance professionals with sunup to sundown work schedules.

Top of the line is a 16-horsepower, 5-forward speed workhorse that cuts a 48-inch swath, with turn-on-a-dime maneuverability for mowing around trees, shrubs and other obstacles. The optional sulky provides sit-down comfort for mowing large lawn and turf areas. A twin-cylinder Briggs & Stratton Industrial/Commercial engine delivers plenty of power to take heavy growth in stride.

For mowing and trimming smaller areas, Ford offers two rear-discharge 21-inch commercial mowers, one self-propelled and one push-type.





## Ford mid-range tractors

Ford Series 10 tractors are engineered for excellent performance, ease of operation and all-around versatility.

Choose from ten diesel models from 34.3 to 86 maximum net engine horsepower. Standard equipment includes 3-point hitch, independent PTO, and power-assist steering on most models.

Options include front-wheel drive, synchromesh transmission, turf tires, and more.

Ford also offers 40.5 and 60 maximum net horsepower low-center-of-gravity Series 10 tractors (shown below) designed to work on hilly and rolling terrain.



## Industrial tractors

A Ford industrial tractor or tractor-loader may be your best choice for site preparation and other heavy-duty work.

Four diesel models are available from 48 to 60 SAE net horsepower. Tractor-loaders offer up to 4,500 lbs of lift capacity, with single-lever loader control.

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Ask your dealer about the Ford Extended Service Plan. ESP covers many specific repairs for 36 months or 2,500 operating hours, whichever comes first. At a modest cost, it's smart protection for your rig.



## Ford tractor-loaders

There's a Ford loader available to extend the versatility and year-around capabilities of every Ford tractor power size. Each offers a wide choice of buckets.

Quik-Tach models for many tractors make for great flexibility. Quick and easy mounting lets you work with the loader in the morning, and "park" it to mow and haul in the afternoon.

Ford also offers many other attachments for grounds maintenance work: rotary cutters, flail mowers, front and rear blades, landscape rakes, scoops, posthole diggers and more. See your Ford Tractor dealer for complete information.

## Ford compact loaders

Ford Load Handlers pack a lot of muscle into a very compact, highly maneuverable package.

Five models range from the 20-horsepower CL-25 to the 64-horsepower CL-65 that can lift a 2,000-pound load. They're all equipped with diesel engines.

A choice of buckets, options and attachments provides surprising versatility. The list includes pallet forks, dozer blades, utility forks, grapples and more.

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FORD TRACTORS



course from the quarry," says Sowers. "To bring the pH down to 6.0 I apply about 65 pounds per acre of sulfur each year."

### **Water, fertility**

The clay soil at Sunnybrook drains poorly, so water management is one of Sowers' biggest concerns. "The worst possible situation is to have our members play through water," he says. Fortunately, the course's drainage system does a fairly good job. On the other hand, summer dry spells are not uncommon; throughout the season Sowers frequently uses a soil probe to keep track of soil moisture levels.

Sowers believes that most courses are overwatered. By irrigating only when it's necessary, Sowers controls his equipment operating and maintenance expenses, and reduces the turf problems associated with too much soil moisture.

"I keep water and fertility levels to the minimum required to maintain healthy turf so that thatch doesn't get out of control," he explains.

The tees and greens at Sunnybrook receive two 2 pounds



**Bob Sowers believes that the key to thatch control is keeping water and fertilizer to the minimum required.**

per 1,000 square feet applications of nitrogen annually, and the fairways get one pound per 1,000 square feet of nitrogen twice each year. In addition, Sowers fertilizes the turf once late in the season to build up carbohydrate reserves and to get a quick green-up in the spring.

### **Thatch control**

Thatch control is an important concern for Sowers. Not only does heavy thatch affect golf play, but it ties up vital nutrients and harbors disease organisms.

To control thatch, Sowers verticle mows the fairways once per week during the growing season and aerifies twice per year. He generally keeps the fairways cut to 1/2-inch, tees to 3/8-inch and greens to 5/32-inch, but during the mid-summer he'll raise the cutting height slightly if the weather remains hot and dry for any length of time.

Sowers, a Penn State graduate with a degree in agronomy, prefers the perennial grasses because they require less maintenance and water than annual bluegrass. Sunnybrook is about 85 percent bentgrass. Sowers has a constant battle with poa annua and clover, which tend to spread if the bentgrass is stressed for any reason.

### **Spreading it out**

The annual budget at Sunnybrook permits Sowers only a limited amount of money for construction, so major projects such as the renovation of Sunnybrook's bunkers are spread over several years. The most recent major project was the construction of a new equipment building in 1981. Sowers is pleased with the spacious new building which houses his office and provides plenty of space for equipment maintenance and storage.

During the past couple of years, Sowers has had to deal with two problems affecting Sunnybrook's trees that superintendents in other parts of the country don't commonly encounter: gypsy moths and Diplodia tip blight.

Controlling a heavy infestation of leaf-munching gypsy moth caterpillars in 1982 was fairly straightforward. Sowers hired a local aerial applicator who used a helicopter to make one application of carbaryl. He doesn't expect that



**The view of the 16th hole fairway at Sunnybrook shows well-groomed predominantly bentgrass turf that Sowers works hard to maintain.**