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COVER STORY

PRICING FOR PROFIT: AN INTRODUCTION

Are you charging the 'right' price for landscaping services? In part one of this two-part in-depth article, various practical approaches to pricing are examined.

by Travis Phillips, Ph.D., Mississippi State University

Landscape managers have always had a problem of arriving at the most accurate price to charge for services. In spite of understanding actual incurred costs better, the problem of discovering this "proper" price has tended to become more evasive. The main reason is that businesses have tended to offer customers larger and much more diverse services.

Any person who has ever had to worry about pricing a service knows the answer to the question of "what price?" is simple. You charge a price that covers all costs, plus an acceptable level of profit. But the culprit in applying this simple principle is figuring out how to allocate the proper amount of overhead cost and profit to each unit of service.

Even if you've established a price that provides an acceptable level of profit, further consideration should be given before making the quote. Either a higher price may be possible, or the desired price may be unobtainable.

Approaches to pricing

1. Adjustment of previous price.

A common pricing method is merely to use the previous price or bid with a more-or-less arbitrary adjustment. Since this earlier price was not objectively determined, neither is the new one. Profits for the business as a whole may have been acceptable; however, some products may have been priced "too high," while others were "too low."

2. Budgeted price.

A second method is based on budgeted costs plus a profit. While more precise than percentage adjustments from the past, there are problems in applying this concept.

Suppose we want to know what to charge per hour for a machine and operator. The machine costs $16,000 and is expected to have a $4,000 salvage value after 10 years.

The machine is expected to be used for 400 hours per year. Over its life, repairs for the machine are expected to be 60 percent of its initial costs. Repairs, fuel and lubrication are estimated at $5.45/hour. Average annual fixed costs (depreciation, interest on investment, insurance and taxes) are estimated at $3,020. Dividing total annual fixed cost by the 400 hours of use, the hourly cost is $7.55. Adding variable costs to fixed, we are at a $13/hour cost.

Next we add an operator for the machine. Suppose this cost is $7/hour, including payroll taxes directly attributable to having the person em-

ployed. We are now up to $20 ($13 + $7)/hour. The above cost includes a 15 percent charge for interest on the investment cost.

This does not mean that we can hire out this machine and operator at $20 per hour and make a 15 percent return on the investment. The business has a $100,000 overhead, and an interest charge was not made for the operating funds associated with the variable cost of the machine and its operator. None of this is included in the $20. How much of the overhead per hour should be added?

True profit is the combined payment for the owner's labor and management and for his investment or equity.

Since the business consists of numerous activities, there is no logical method of assigning to equipment and operator their share of the overhead. So—even though we know the cost involved—simple budgeting does not tell us how to price out the equipment.

The budgeting procedure, however, is better in the end than just adjusting a previous price; it identifies variable and fixed costs associated directly with the machine.

3. Targeted return on investment. A more positive approach, one that provides a means for allocating overhead, is based on beginning with pricing to meet a targeted return on investment (ROI).

This procedure provides an estimate that covers all costs, including overhead, plus the pre-selected return on equity. The procedure has been widely presented by the Association of Landscape Contractors of America (ALCA). Broader and more varied applications are presented by Spencer A. Tucker in his book "Pricing for Higher Profits" (McGraw-Hill, 1966). Although the procedure is no cure-all, it does provide a framework for using already available accounting data.

Defining profit

In the usual accounting procedures, expenses are payments you must make for using your various resources. Profits are the payments received for those not specifically identified as expenses.

continued on page 34

Table 1.

Past year's income statement, by departments

Item	Department			Total
	Contract	Service	Merchandise	
Sales	$292,011	$90,849	$175,702	$558,562
Beginning inventory	$32,273		32,608	64,881
Purchases	95,841	5,691	91,142	192,674
Ending inventory	36,250		31,034	67,284
cost of goods	91,861	5,691	92,716	190,271
Gross profit	200,147	85,158	82,986	368,291
Expenses				
Contracting supplies	5,757			5,575
Vehicles	14,227	14,227	1,000	29,454
Equipment rental	2,303			2,303
Salaries	109,605	51,054	46,610	202,269
Advertising	1,964		4,583	6,547
Repairs	1,341	1,340		2,681
Rent	7,174	1,000	4,026	12,200
Taxes-payroll	9,126	4,250	3,464	16,840
-property	1,332	184	743	2,259
Depreciation	10,355	7,141	357	17,853
Utilities	4,384	877	12,274	17,535
Dues and subscription	474		475	949
Buying expenses	85		85	170
Credit card discounts	262		786	1,048
Professional fees	5,444	158	286	5,888
Insurance	8,264	3,849	3,138	15,251
Office supplies	2,587	892	1,706	5,185
Net interest	3,051	1,052	2,012	6,115
Miscellaneous	554	191	364	1,109
Total expenses	188,289	86,215	76,909	351,413
Net profit	11,858	(1,057)	6,077	16,878

Table 2.

CONTRACTING DEPARTMENT: Income statement for past year by classified costs

Item	Direct Cost	Overhead Costs		Total
		Variable	Fixed	
Sales				$292,011
Beginning inventory				32,273
Purchases				95,841
Ending inventory				36,250
Cost of goods				91,864
Gross profit				200,147
Expenses				
Contracting supplies	—	$ 5,757	—	$ 5,757
Vehicles	$11,327		$ 2,900	14,227
Equipment rental	2,303			2,303
Salaries	79,605		30,000	109,605
Advertising		1,964		1,964
Repairs		1,341		1,341
Rent			7,174	7,174
Taxes-payroll	6,426		2,700	9,126
-property			1,332	1,332
Depreciation			10,355	10,355
Utilities			4,384	4,384
Dues & subscriptions			474	474
Buying expenses		85		85
Credit card discounts		262		262
Professional fees		0	5,444	5,444
Insurance		4,524	3,740	8,264
Office supplies		2,587		2,587
Net interest			3,051	3,051
Miscellaneous		554		544
Total expenses	99,661	17,074	71,554	188,289
Net profit				11,858

Table 3.

CONTRACTING DEPARTMENT: Income statement for past year

Item	Dollars	Percent of Sales
Sales	292,001	100.00
Direct costs		
Cost of goods (materials)	91,864	
Vehicles	11,327	
Equipment rental	2,303	
Labor	79,605	
Labor burden	6,426	
Total direct	191,525	65.59
Overhead costs		
Variable		
Contracting supplies	5,757	
Advertising	1,964	
Repairs	1,341	
Buying expense	85	
Credit card discounts	262	
Insurance	4,524	
Office supplies	2,587	
Miscellaneous	554	
Total variable	17,074	5.85
Fixed		
Vehicle insurance	2,900	
Administrative salaries	30,000	
Salary burden	2,700	
Rent	7,174	
Property taxes	1,332	
Depreciation	10,355	
Utilities	4,384	
Dues and subscriptions	474	
Professional fees	5,444	
Insurance	3,740	
Interest	3,051	
Total fixed	71,554	24.50
Total overhead	88,628	30.35
Net profit	11,858	4.06

Table 4.

CONTRACTING DEPARTMENT: Projected income statement for next year by classified costs

Item	Dollars	Percent Sales Exposure	
Sales	343,627	100.00	
Direct costs			
Cost of goods (materials)	108,105		
Vehicles	13,329		
Equipment rental	2,710		
Labor	93,679		
Labor burden	7,562		
Total direct	225,385	65.59	100.00
Overhead costs			
Variable			
Contracting supplies	6,778		
Advertising	2,312		
Repairs	1,579		
Buying expenses	100		
Credit card discounts	309		
Insurance	5,326		
Office supplies	3,046		
Miscellaneous	652		
Total variable	20,102	5.85	8.92
Fixed			
Vehicle insurance	3,248		
Administrative salaries	33,600		
Salary burden	3,024		
Rent	8,035		
Property taxes	1,492		
Depreciation	11,597		
Utilities	4,910		
Dues and subscriptions	531		
Professional fees	6,097		
Insurance	4,189		
Interest	3,417		
Total fixed	80,140	23.32	35.56
Total overhead	100,242	29.17	44.48
Net profit	18,000	5.24	

PROFITS *from page 33*

For example, in an *unincorporated* business, the owner/manager cannot pay himself and consider it an expense. A return on the investment in the owner's equity cannot be considered an expense. Therefore, the true profit is the combined payment for the owner's labor and management and for his investment or equity.

In order to separate profit into the two components, we must value one resource and subtract it from the profit in order to estimate the value of the other. Typically, economists place a value on the labor and management resource and subtract this value from profit to have the return on equity.

How are labor and management valued? This owner/manager has a value as an employee performing a similar function in another business. So the value of the person's best alternative employment is subtracted from profit to leave a residual we call return on equity, or return on investment.

How is the situation changed if the business is *incorporated*?

Since the owner/manager becomes an employee of the corporation, his or her salary is included as an expense. If he/she has paid him/herself at the alternative rate, profit now reflects ROI. This will be assumed from now on in this explanation of pricing for profit.

Valuing assets

Accounting creates yet another problem for economists who want to treat alternative investments comparably.

Assets are valued at book value (their purchase price less depreciation, if applicable). Assets acquired some years ago may have a current market value considerably above book value. The rapid recovery system allowed by recent tax laws have also allowed write-off much faster than the actual decline in value.

Therefore, assets should be evaluated at current market value rather than at book value. If an alternative investment would yield 12 percent, a true ROI should be calculated as if existing assets were cashed out and invested at 12 percent.

Next month: Get out your calculators!—Pricing by target return on investment. LM

Dr. Phillips is a professor/economist in the Department of Agricultural Economics at Mississippi State University. He has written numerous articles on the economics of crop and horticulture production, and has developed and presented marketing programs for Mississippi landscape maintenance firms.

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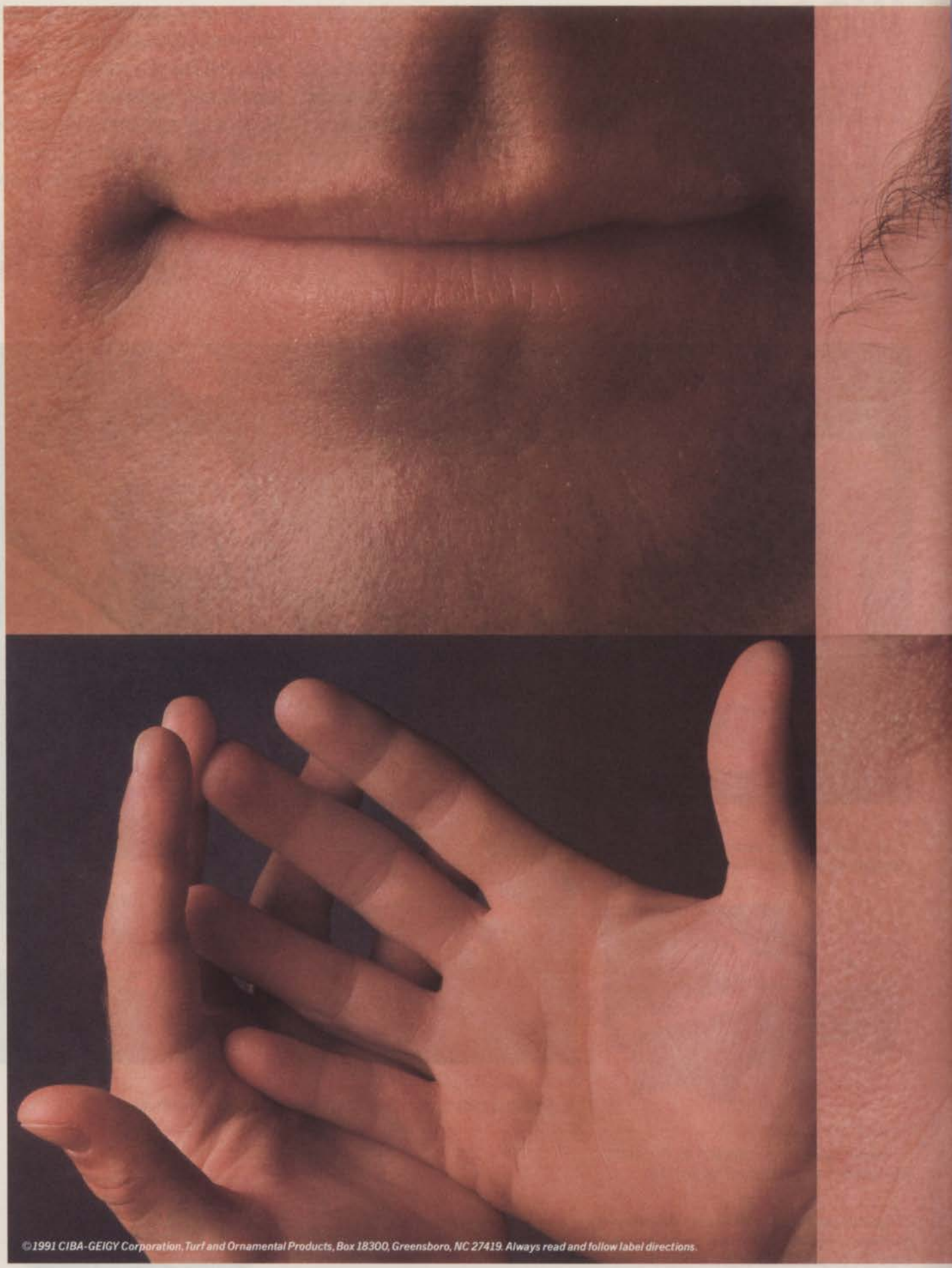
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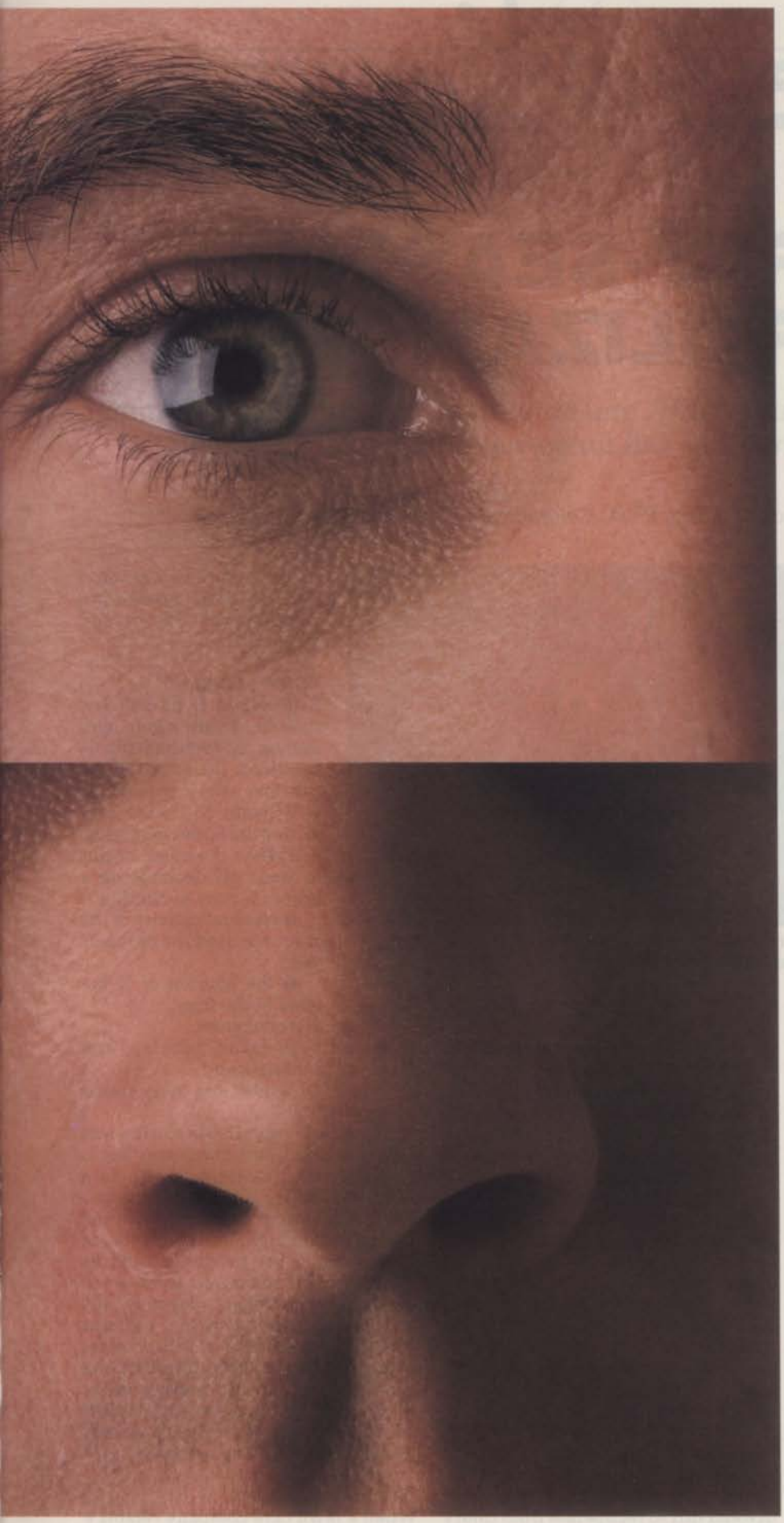

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EARLY-SEASON FERTILIZATION

Depending on desired turf quality, and amount of spring and early summer activity, many situations call for spring nitrogen fertilization.

by Anthony J. Koski, Ph.D., Colorado State University

Spring time brings daffodils, crocuses, and—hopefully—the greening of grass. Along with the wide acceptance of late-season fertilization, many turf managers seemed to have developed a fear of fertilizing in the spring.

While it is true that improper nitrogen use in the spring can bring about a host of problems, adopting a late-season fertilization philosophy generally does not allow you to eliminate spring nitrogen (N) applications.

Pink patch and red thread can become severe during the spring on N-deficient turf.

Not to excess

Stimulating shoot growth during the spring can detrimentally affect the depth and number of roots. Since this is the time of year when most of the roots for cool-season turfgrass species are being formed (Fig. 1), it is important that root formation not be discouraged.

Large applications (greater than one pound of N/1000 sq. ft.), especially of quickly-available N sources, can substantially reduce root growth of cool-season species. Excessive spring shoot growth shifts carbohydrate use from the roots to the shoots, thus reducing the number and health of new roots. The root and shoot growth patterns of warm-season grasses are different, and spring N applications are less apt to negatively affect root formation (Fig. 2).

Overuse of nitrogen during spring, resulting in high shoot growth, necessitates frequent mowing.

Diseases may increase

The incidence and severity of some diseases may be increased by overfertilization in the spring. The leafspot (Helminthosporium) diseases, patch diseases, and high- and low-temperature pythiums are favored by excessive N applications. Recovery from damage caused by these diseases is more difficult, since exhaustion of carbohydrate reserves is a consequence of N overuse.

Reduced stress tolerance: The zealous use of N in spring may reduce summer drought resistance and heat tolerance. This is partly attributable to effects on the roots, but also because of lowered carbohydrate levels and the formation of excessively hydrated leaves.

Effects on lateral growth: High N rates can diminish the number and vigor of lateral stems (stolons and rhizomes). The ability for a trafficked or divoted turf to recuperate from injury is lowered. Low carbohydrates and hydrated leaves may effect sod strength.

When spring N?

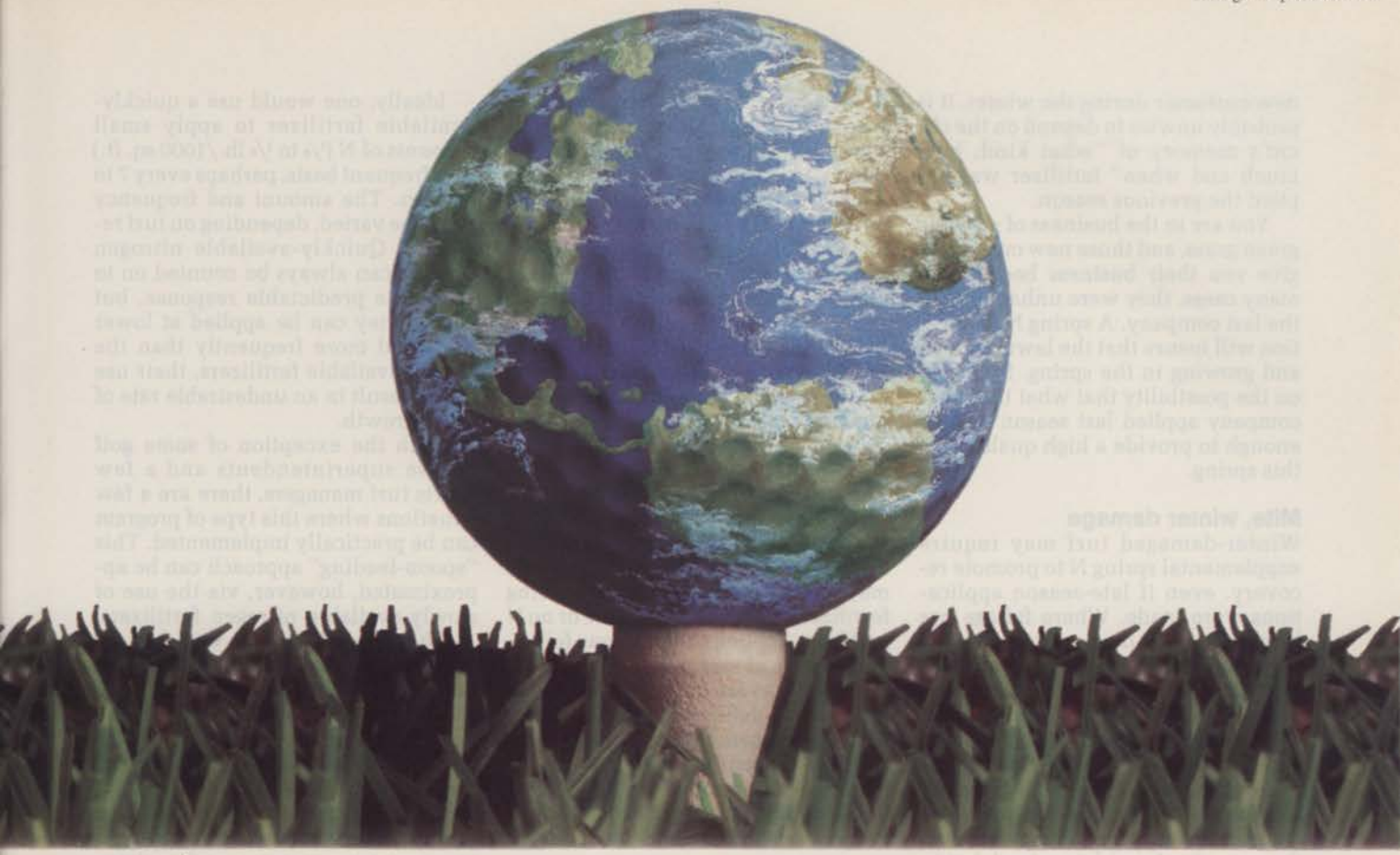
Late-season N doesn't last forever. Even when late-season N fertilization is practiced, the effects of the previous year's application will begin to "wear off" during the following spring. Just *when* the effect begins to wear off depends on a host of factors, including:

- residual activity of the N source used the previous year,
- the amount of N applied at the time,
- the species of grass,
- soil type (sand vs. clay, and leaching potential), and
- level of winter and early spring precipitation.

If a quickly-available source was used in the fall, the effect may begin to dissipate during early to late May, especially if the turf is growing on a sandy soil and winter/spring rain is high. If higher rates of slowly-available products such as IBDU or sulfur-coated urea were used, the residual activity may persist longer into the spring, perhaps into early summer. In either case, some N should be applied in the spring, either to maintain quality during the spring, or to provide an N source that would release slowly during the following summer.

The new customer

When a lawn care company retains a



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new customer during the winter, it is probably unwise to depend on the client's memory of "what kind, how much and when" fertilizer was applied the previous season.

You are in the business of growing green grass, and those new customers give you their business because, in many cases, they were unhappy with the last company. A spring N application will insure that the lawn is green and growing in the spring. Don't bet on the possibility that what the other company applied last season will be enough to provide a high quality turf this spring.

Mite, winter damage

Winter-damaged turf may require supplemental spring N to promote recovery, even if late-season applications were made. Where foliage has been killed by desiccation or snow mold (but crowns and roots are still living), fertilization may hasten recuperation. Of course, nitrogen will not resuscitate dead turf, so make sure it is still alive before fertilizing.

In some areas of the country, various species of mites cause turf damage. Quite often the turf is dead by the time the cause has been determined, but in some cases only the foliage has been damaged and a bit of nitrogen can hasten recovery and promote growth that will outpace the injury being caused by the mites. Remind clients that fertilizer applications cannot be expected to "kick in" unless sufficient precipitation occurs, or irrigation is provided, following fertilization.

Athletic applications

Football fields are often used for practice or games late in the fall, long after temperatures have cooled to the point that recuperation is possible. These same fields are often used early the following year for spring games and drills, resulting in even greater damage.

On these fields, spring fertilization is necessary to promote growth and recovery of the damaged turf. Similiarly, spring baseball can be devastating to slow-growing fields, espcially if the same field is used for both practice and games.

Other high-use athletic areas, such as soccer fields and multi-use fields in city parks, can also benefit from springtime fertilization. On such heavy-use fields it is not unusual to fertiilize with as much as 8 to 10 lbs. N/1000 sq. ft. over the course of a growing season.

Averting diseases

Certain disease problems can be averted, or at least be decreased in severity, by wise spring N applications. Turf damaged by snow mold may recover more quickly with spring fertilization, especially if little or no N had been applied the previous fall.

Red thread and pink patch can be especially severe during a cool, moist spring on N-deficient turf. The severity of zoysia patch disease, most common on intensively-managed zoysia in the transition zone, may be reduced by spring and summer nitrogen applications.

Amount and frequency

The goal of any spring fertilization program should be to promote greenup and a pre-determined growth level, without producing a fast-growing, succulent turfgrass plant. This can be difficult for a number of reasons, the main one being that shoot growth is naturally rapid at this time of year. A complicating factor is the unpredictability of spring weather, most importantly temperature and precipitation. Since release of N from all fertilizer sources more or less depends on moisture, with some also being quite temperature dependent, the choice of a fertilizer (and determination of how much to apply) for spring use can be difficult.

Ideally, one would use a quickly-available fertilizer to apply small amounts of N (1/8 to 1/4 lb./1000 sq. ft.) on a frequent basis, perhaps every 7 to 14 days. The amount and frequency could be varied, depending on turf response. Quickly-available nitrogen sources can always be counted on to provide a predictable response, but unless they can be applied at lower rates and more frequently than the slowly-available fertilizers, their use might result in an undesirable rate of shoot growth.

With the exception of some golf course superintendents and a few sports turf managers, there are a few situations where this type of program can be practically implemented. This "spoon-feeding" approach can be approximated, however, via the use of slowly-available nitrogen fertilizers.

This generally works well, but remember: you are depending on Mother Nature to provide conditions conducive to release of N for the turfgrass plant.

Slowly-available nitrogen sources that do not work well (or predictably) during early spring would be ideal for late spring or summer use, since you can count on warmer and moister conditions to prevail at those times. Some natural organic fertilizers and those with a high percentage of their N as longer-chain ureaformaldehyde polymers (Nitroform) must be applied at relatively high rates (1.5 to 2 lbs. N/100 sq. ft.) in order to elicit a noticeable short term response from the turf, even under conditions favoring the release of their nitrogen.

If you are able to make light, frequent spring N applications, using a quickly-available N source (urea, ammonium sulfate) would be ideal. If you are locked into making one or two applications during the spring, consider using a 1/2 or 3/4 rate of a quickly-available source early, and a more slowly-available N source (1 lb. N or

FIGURE 1

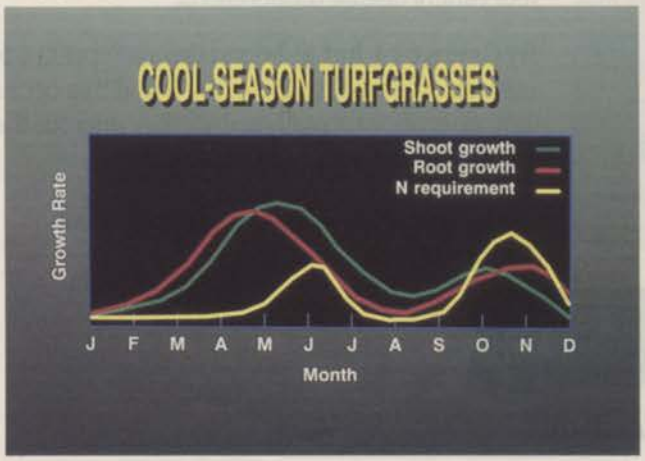

FIGURE 2