

Today's Winning Numbers Are



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Why (and how) you should measure everything in the mowing game

Selling mowing contracts that return the same double-digit profits that they did as little as six years ago is a tough act these days. In fact, property maintenance prices have been on a downward spiral for the past 10 years or longer in most markets. But generating enough revenue to retain good employees, meet all of your expenses, pay yourself a fair wage and still generate a respectable profit; that's still doable.

If you feel like you're spinning your wheels on that score, cheer up and keep reading. We're sharing some numbers and strategies here that will improve your chances of getting the financial returns that justify all of your efforts. And it all starts with numbers.

First, consider that you have to run your company by the numbers. Numbers have just a single meaning unlike words that often have several meanings. That's the beauty of numbers; they give you the real story. They define winning and losing and will eventually tell you whether you should (or can) stay in business or whether it's time to find a wage-paying job with somebody else. Not everyone is cut out to be a business owner.

Pricing a Mowing Crew

Equipment Used Hourly Cost

60-inch mower @ \$10.13, 36-inch mower @ \$1.95 \$12.08

2 weed eaters @ \$2.29 \$4.58

16-foot utility trailer \$0.43

Backpack blower \$1.37

1-ton truck\$9.56

Labor @ \$12/hour (\$14.00)

Labor @ \$8/hour (\$9.80) = \$24.75/2 on crew\$12.38

Total direct and indirect costs\$40.40

Overhead & contingencies 12 percent\$4.85

Breakeven point\$45.25

Desired markup 10 percent\$4.52

Minimum hourly cost per labor hour\$49.77

Note: For example only

Franklin Teeter has a great respect for numbers. He realizes their importance in the successful operation of his small business, Snake Hill Nursery based in tiny Pomona Park (pop. 780), Fla. He mowed lawns while attending the University of Florida, and founded his company in 1982 after graduating with a degree in agriculture. Snake Hill Nursery offers landscape management, irrigation and related services in a compact market southwest of Jacksonville. He also runs a small nursery that grows ferns and cut flowers that typically end up in attractive arrangements.

"We have to do a little bit of everything," says Teeter. But mowing/maintenance provides him with a healthy chunk of his operations' revenues, and he pays close attention to what it costs his company to deliver these services and to his financials in general. To that point he runs Snake Hill Nursery lean—real lean.

The company provides year-round maintenance services to a range of clients that include "snow birds" from the North that keep up second homes and city dwellers with weekend places. He sees some of his clients only four or five times a year. His clients' lawns consist of a mixed bag of warm-season grasses, including bermudagrass, bahiagrass and some of multiple species. Because of Florida's year-round mowing season and because warm-season grasses take more horsepower to cut than cool-season grasses, Teeter equips his two female technicians with front-mount Grasshopper 930D units powered by 30 hp diesel engines. The women mow and Teeter trims and edges. The trio knocks out approximately 60 properties each week. Five of their properties are at least 5 acres and another takes all day to mow and trim.

Mowing Patterns, Width and Speed

You develop procedures to get your guys out of our shops and onto customers' properties as seamlessly as you can. The mower blades are sharp and the machines were serviced and fueled the night before. The taillights and brake lights on the trailers—already loaded with mowers, trimmers, edgers, rakes

and brooms—have been checked and are functioning. The crews arrive at 6:30 a.m. and are on the road by 7 a.m.

But, once they arrive at your customers' properties and unload their mowers do they know the most efficient way to mow each property? And that's assuming that they have the best size and type of mower (zero-turn, walk-behind, stand-on, trim) for each property.

In other words, do some mowing patterns offer more time and labor savings than others? It would seem reasonable that that's the case. Not surprisingly, in this era that so worships every efficiency no matter how seemingly insignificant, more than a few people have pondered the question and offered up thoughts on the subject. These include homeowners and, of course, landscape pros seeking whatever small advantage they can generate in the ultra-competitive commercial cutting business.



In commercial mowing, if you're not making tall grass shorter you're not making money. It all starts with a good process to equip crews and get them on the road.

PHOTO BY RON HALL.

Even erudite mathematicians skilled in geometry, and apparently having more than a little free time on their hands, have weighed in on the subject. Two Australians, Burkard Polster, a university mathematics teacher, and Marty Ross, who describes himself as a "mathematics nomad," offer up several different pattern scenarios for mowing irregularly shaped properties on an Internet posting curiously entitled "A Victa-ry for mathematics."

Irregularly shaped properties

The goal of their exercise was to determine the best pattern for mowing irregularly shaped properties in the shortest possible distance and without going over the same patch of ground twice. Their descriptions and computations come with diagrams. Readers of the piece offered both praise *and* criticism of their efforts. Check out their findings at <http://bit.ly/XT0Y0A>.

In a recent article, Popular Mechanics attacked the same problem, but it simplified its explanation by looking at a square yard. Its examples presumably would apply to a neatly rectangular property as well. The author of the piece calculated the number of turns it would take to mow a property going back-and-forth compared to using a spiral pattern. Again, an operator would be tasked with not mowing any of the same areas twice.

In its examination the publication collaborated with "master puzzler" Scott Kim who, making several drawings, determined that both techniques would result in the same number of turns. In mowing the circular (more accurately box) pattern and starting at the edge of the property, an operator would be making all the turns in the same direction. If the operator started on the left side of the lawn all the 90-degree turns would be to the right, and each pass would result in a smaller pattern to mow. Because most mowing units discharge to the right, the grass clippings would be discharged into the path

of the next pass of the mower.

If the operator started from the right side of the property mowing the property would require the same number of left-hand turns and the clippings would be discharged away from the area already cut, of course. Starting from either side of the property using this method the operator is mowing in smaller and smaller spirals and eventually ends up in the center of the property.

Mowing back-and-forth as Kim describes it would require making two 90-degree turns at the end of each pass and ultimately results in the same number of angular degrees as the previous method. From a practical standpoint, however, an experienced operator on one of today's zero-turn mowers can make the 180-degree changes of direction in this pattern unthinkingly. And that really gets to the heart of the matter, calculating mowing efficiency for each site.

For example, an experienced operator, provided with the right-sized mower, should exceed 90 percent efficiency in mowing big, rectangular properties that have no trees or other obstacles. That's because the operator should be able to mow at optimum speed 90 percent of the time.

Most properties, as we all know, are not as easy to mow because of their shape, size, obstacles or slope. All of these factors, and several we've probably overlooked, decrease mowing efficiency. Another variable, and not an insignificant one, is the experience and skill level of the operator. This can vary significantly from operator to operator. This, too, has to be taken into consideration.



[Click image to enlarge.](#)

Company owners, academics, hobbieists and even mathematicians have attempted to come up with the most efficient mowing patterns. Alas, given the differences in size and shape of lawns (including the presence of obstacles, such as trees and shrubs, and perhaps even slopes), mowing efficiency mostly comes down to a combination of equipment selection and the skill of the operator.

Width and speed

Finally, it seems reasonable to assume than by using a mower than is 50 percent wider than the one you've been using on a particular property, you will be able to mow 50 percent more lawn per hour. The folks at Louisiana State University agriculture say this isn't necessarily so. Drawing upon their experience measuring the efficiency of equipment such as planters and harvesters, they maintain that to get a 50 percent boost in efficiency you will have to increase the size of the cut by more than 50 percent, and perhaps significantly more.

The reason for this is that as you increase width, efficiency decreases and, in some cases, can reduce mowing rate. If the additional time spent maneuvering a wider mower exceeds the time saved by the wider cut, you will

lose production. Also, in some cases, increasing the width of the cut will necessitate reducing speed.

Similarly, increasing the speed of mowing does not necessarily result in a proportional increase in mowing rate, according to the LSU report. You still have to turn at the ends of the lawn and still have to maneuver around trees and obstacles. This nonproductive time becomes a larger percentage of total time as your speed increases. Your efficiency will drop.

Width and speed are closely interrelated in terms of determining mowing efficiency. A third variable is the type of mower.

LSU Ag offers the example of a 72-inch finishing mower behind a compact tractor being replaced with a 52-inch zero-turn mower. The smaller mower was able to cut the 4-acre property in slightly less time than the 72-inch mower because the area contained many trees, a pond and multiple plantings—all of which required lots of maneuvering.

Yes, in most cases a wider or faster mower will cut a lawn faster than a narrower or slower unit, but this is not always true, and the mowing capacity will not be proportional. Mowing efficiency is also dependent on the conditions on each property, type of mower and the skill level of the operator as well as width and speed.

When Teeter started his company he used 48-inch walk-behinds and it took many more labor hours to keep up with the mowing. He realized there had to be a better way, so he carefully calculated the size and complexity of the typical properties under his care, re-evaluated the labor hour costs to his company, educated himself about various equipment options (including putting a pencil to fuel, maintenance and repair estimates) before settling on the rugged front-mount diesel units.

It turned out to be a smart move for his particular operation. Teeter generates winning numbers, i.e. better profits, because he and his two employees do significantly more production because of the increased efficiency of the mowers and because the detailed-oriented operators are excellent at mowing under the trees, shrubs and closer to other obstacles on clients' properties, which reduces the amount of string trimming he has to do. He says he's also saving 5 to 6 gallons of fuel daily with the diesel units.

"In about six months we've paid for the difference in price between these diesel mowers and mowers with gasoline engines," says Teeter.

Teeter, who is content to run a small operation, realizes the importance of tracking and managing his company's costs and pricing his company's services at a level to return a fair profit.

Covering your costs

In other words, he's determined what he wants his salary to be and the profit margin he wants. Now, it's a matter of figuring his costs and accurately

calculating billable hours, the time that his employees are actually mowing lawns and he's trimming.

In fact, it would be extremely difficult, if not impossible, to run a profitable business of any size without knowing and managing operating costs and pricing your products and services accordingly. These costs are divided into direct costs and indirect costs. Direct costs are the amounts paid for labor and materials assigned to performing a particular service. Indirect costs, including overhead, are not directly attributable to a particular job or service. These include administrative expenses, rent, utilities, insurance, management, taxes and a host of other expenses that do not support a specific project or service. They have to be recovered with the billable work.

(See above for a fictitious, but hopefully helpful, example of calculating the direct costs of a property management job.)

Admittedly, this is a simplistic explanation. However, judging by the ridiculously low prices some companies are charging for their property management services, it's reasonable to assume that they don't comprehend the true costs of providing their services. Many got out of business (usually sooner than later), some soldier on content to earn whatever meager returns they can and some eventually get smarter.

Some of these operators can be legitimately described as "low ballers." They have no plan other than to pocket what they can, usually at the expense of another company. They labor on year after year and are satisfied with the paltry return their efforts generate. They have no desire to grow.

Desire is not enough



Steve Rak II

Other operators, perhaps even some we scornfully call low ballers, have a genuine desire to grow their businesses, but lack business knowledge, and especially job costing and pricing. Some of these eventually smarten up and realize that by undercutting the market they're cheating themselves, says Steve Rak II, president of Southwest Landscape Management, Columbia Station, Ohio.

Rak says until they get a better understanding of their financials and a more accurate understanding of the costs of running a small business they will likely keep spinning their wheels. Rak admits he had to learn the same lessons. His particular epiphany occurred when his accountant, after reviewing his financials, bluntly told him that he had to boost his labor hour rates while doing what he could to keep overhead under control. While it takes courage to raise rates, especially in a tough market, it was the right move, he says.

"Maintenance is a price-driven business. It's gotten to be cutthroat, but you don't want to charge less than what the market will bear," he says. "You will

be leaving money on the table.”

Wayne Volz, 33 years in the landscape industry and owner of Profits Unlimited, a Louisville, Ky., consulting firm, says owners can only begin to become profitable and grow their companies once they understand their “true” cost per hour of operation. Without that knowledge they can’t set prices that will allow them to compete and also be profitable.

Too often they base their price on whatever a property owner is willing to pay them. He calls it the “flinch method”. They throw out a price and if the customer flinches, they lower it. Others find out what the competition is charging and charge the same, or, in many cases, dollars less. Then, of course, there are those who reason, “I was making \$12 an hour in my last job, getting \$25 for mowing a lawn is awesome,” says Volz.

“I ask everyone in my seminars if they think that companies like Exmark, Scag, John Deere and Ferris know what it costs to manufacture their mowers,” relates Volz. “Everyone always answers ‘yes’. Then I ask if the success of those companies is any more important than the success of their companies. That’s when they start thinking and they agree that they need to know why they charge what they charge.”



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Florida landscape pro Franklin Teeter made some strategic equipment and operational decisions to successfully reduce the number of labor hours. PHOTO COURTESY THE GRASSHOPPER COMPANY.

Volz adds that each company must base its prices based on its own unique expenses and use rates, and not on an industry standard. “The reason why they should not use an industry standard is simple. If the industry standard was right, the failure rates for our industry would not be as high as they are,” he says.

In a sense you might view an industry standard, although not exactly, as sort of an average, which is defined “as a measure of the middle or typical value of a data set. It is thus a measure of central tendency.” While industry standards are helpful in comparing your company’s performance against others, nothing here suggests you should seek to match the industry standard. It’s mostly for comparison’s sake.

To that point, and a bit off subject, how many American men would consider themselves to be unusual if they weren’t 5 feet 9.1 inches tall and weighed 182 pounds. That’s what the U.S. Department of Health and Human Services describes the average adult U.S. male. Other sources tell us that Mr. Average exercises 2.87 hours a week and eats 193 hamburgers and 155 hot dogs annually. Do you know anybody that fits that description exactly?

The same holds true in commercial maintenance. Significant differences exist in the staffing, operations and goals among landscape service companies across North America. This includes the prices that customers in different

markets are willing to pay and companies can charge.

To that point, a recent article in the Wall Street Journal reported that a mowing company in Parker, Colo., charges \$36.25 to mow a 3,000-square-foot yard (about \$12 per 1,000 square feet), while an established landscape firm in Lansing, Mich., charges \$36 to cut a 12,000-square-foot lawn (\$3 per 1,000 square feet). Meanwhile a successful and profitable company in New Milford, Conn., bills a customer with a 27,000-square-foot lawn \$67.50 (\$2.50 per 1,000 square feet), while a professional landscape company in Portland, Ore., typically charges \$35 for a roughly 2,500-square-foot lawn (\$14 per 1,000 square feet).



“Too many contractors are selling based solely on cost rather than on value, and they don’t understand why they’re not making a profit or sill losing clients to their competition.” -Wayne Volz, Profits Unlimited

The take-home message here is that every company is unique and every market is different in fundamental ways beyond the obvious differences such as climate, economic conditions, property sizes, landscape types, public perception and market sophistication.

One size does not fit all

That becomes very clear when comparing Teeter’s Snake Hill Nurseries with Architerra, a Chicago-area company run by the husband and wife team of Ron and Tracey Lester. Although the Florida and Vernon Hills, Ill., companies were both founded in 1982, they approach the market (apart from offering high-quality, profitable service) in very different ways. Following the 2007-2008 Recession, the Lesters remade their company, tightening its service area to an area all within a few minutes drive from their headquarters, a market area of prime neighborhoods north of Chicago.

Lester describes his company’s new direction as “putting a bunch of perch in the basket” by building route density within a 5-mile radius of his shop. The properties are mostly small (at least compared to those served by Snake Hill Nursery) so Architerra’s crews use 30-inch Toro units. “We still have our line in the water for the whales (the big landscape jobs), but it’s the perch that are feeding us now,” says Lester.

Ultimately, Volz adds, the question comes down to how an individual perceives himself, either as “merely a grass cutter” or a professional.

“Along with having understanding cost per hour of operation, a person must also have pride in what they do and realize the value they are providing their customers. Too many contractors are selling based solely on cost rather than on value, and they don’t understand why they’re not making a profit or sill losing clients to their competition,” he continues.

“As my father told me; if a client hires you solely on price, they will fire you for the same reason.”

Ron Hall, editor-in-chief, has been researching, writing and editing articles

for the green industry since 1984. Reach him at rhall@mooserivermedia.com.

Read the April issue of *Turf* magazine to learn about the latest innovations and improvements that manufacturers are making to commercial mowers and what it means to you.