Read this before buying that mower

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A quality, high-production mower is sometimes the reason—the only reason—the professional contractor can turn a profit in the cut-throat mowing industry. Here's why.

by J. PAUL LAMARCH

I can't raise my prices!

That's the number one complaint from mowing contractors across the country. Getting a profit is almost impossible. Employees are working to their limit and overhead is about as "lean and mean" as it can get.

Contractors that are managing to get a profit attribute the profit to using the right mower. When the time comes to purchase a new mower for contractors who haven't yet made the quantum leap to high productivity mowers, the equipment dealer is approached with a little dread and much apprehension and very little cash on hand.

Without profit, it's almost impossible to make plans for that elusive tomorrow: the day I buy a high-productivity mower.

Lowest price not everything

No matter how much we are told that, "this mower will last longer, go faster, cut better and save money," we always have a problem with the price. But "lowest price" does not take everything into the financial picture. As a matter of fact, our fixation on lowest price is often the cause of poor profit picture and troubling cash flow. Remember, the expense of that high productivity mower must be examined carefully in conjunction with the reduction of labor expense and down time savings.

The past five years have been 'sink or swim' for contractors.

There are just too many contractors out there. As in many other sectors, there is just too much supply and not enough demand. Asking higher prices is difficult; profits are not materializing and cash flow is eroding.

Let's look at mowers from a different angle; the productivity factor. Let me share with you a process that I use to determine which mower is the best dollar value - not just a lower price.

The scenario

I need a new mower and I am looking at three different mowers that I think will do the job for me. As an example, I have 1000 acres of grass to cut each year, 33 acres per week for 30 weeks. The mower I now use operates for four days per week and cuts eight acres per day. There are no restrictions on the sites such as gates to block accesses and most of the sites are ½ acre or more.

I have a choice of three machines:

1. A 36-inch residential riding mower priced at $1500. This is the same type of mower I am now using and is just about all I can afford.

2. A 36-inch commercial walk behind priced at $3000 is obviously better built and will cause me less down time. But there's that cash flow problem. The payments will increase my overhead and I would have to finance the purchase.

3. A 48-inch commercial riding tractor is the mower I would really love to have. Of course I'd have to win the lottery for that one, priced at $9000.

Because I don't have a lot of money to spend I'll most likely purchase the $1500 machine. But I still want to see how these mowers measure up on dollar value when I use this process.

Table 1 lists the three mowers.

Calculate acres per hour

I have found that mowers do not operate at 100 percent capacity; usually the capacity is closer to 80

TABLE 1 MOWER CHOICES USED IN THIS PRICING SCENARIO

	Residential Riding Mower	Commercial Walk Behind	Commercial Tractor
Cutting width	36 inches	36 inches	48 inches
Price	$1500	$3000	$9000
Cutting speed	4 mph	6 mph	6 mph
Min. per acre	50 min.	34 min.	25 min.

percent. To figure out how many acres I can cut at 80 percent capacity, I use the formula:

MPH X width of cut ÷120 = acres per hour

Therefore, in the example of the 36-inch riding mower, I multiply the mph (4) x the width of the cut (36-inches) and divide by 120.

(4x36) ÷ by 120 = 1.20 acres per hour

Now I divide 60 minutes (one hour) by 1.20 and get 50 minutes. As you can see in Table 1, the $1500 mower takes 50 minutes to cut an acre versus 25 minutes for the 48-inches mower, even though the 48-inch mower costs six times as much.

I need to know the cost of each mower per hour so that I can help determine which is the best mower for the job. To determine the cost of the mower, you have to know:

1) The cost of the mower, including financing costs.

2) The lifespan of the mower in years.

3) Hours of use per year.

Note in Table 2 how the $1500 mower only costs $1.20 per hour versus the 48-inch mower at $7.18 per hour. If the purchase decision was to be made strictly on mower cost per hour I can assure you that I would be buying the $1500 mower.

Note also that in all cases of comparison the equipment cost per hour includes return on investment.

Equipment cost per hour

I incorporate "return on investment" in this formula. This is important so that over the lifespan of the mower not only will I have money from my hourly charge to pay for the mower, but I will also have funds to buy the eventual replacement mower later. By dividing the expected lifespan of the mower by 2, you automatically build in return on investment.

Let's use the $1500 mower as an example. The dealer told me that if I use this mower for 834 hours to cut 1000 acres each year, he would recommend that I trade it in after two years, and if I take care of it, it might last three years. The mower I have right now is just about exhausted. It has lasted three years.

You can see in Table 2 that the cost per equipment hour for the $1500 mower is $1.20. If I use this mower for 834 hours for 3 years at $1.20 per hour, I will have collected $3000 (i.e. 834 hours x 3 x $1.20 = $3000). That is $1500 more than I paid for the mower. This extra $1500, plus the residual value of the mower upon trade-in time should cover the cost of a similar replacement mower.

TABLE 2 EQUIPMENT COST FORMULA

Dollar cost of equipment divided by lifespan of equipment in years divided by 2, multipled by hours of use per year. Cost per equipment hour based on 1000 acres per year

$1500 mower	$3000 mower	$9000 mower
(3 years ÷ 2) x (834 hours)	(4 years ÷ 2) x (567 hours)	(6 years ÷ 2) x (417 hours)
Cost = $1.20/hour	Cost = $2.65/hour	Cost = $7.18/hour

Employee cost per hour

I pay $8 per hour for my employees to operate my mowers. I also pay state and federal taxes, so that my payroll burden is 40 percent, or an additional $3.20 per hour. ($8.00 per hour x 40 percent payroll tax) My total employee cost per hour is therefore $11.20.

Down time, or the time spent loading and unloading trucks, travelling to and from the job site and two coffee breaks per day adds up to 20 percent of the work day, or two hours of each 10 hour day. Who pays for this down time?

Of course I can only charge my customers for my employees' productive time (i.e the time employees spend working on the customer's property).

Therefore, to determine the real cost of my employee, I need to incorporate the down time in the employee hourly rate, so that the customer actually pays for the (unproductive time) down time.

Employee cost per hour per machine

To do this, I divide the hourly pay of the employee plus the payroll burden by the percentage of down time less 100%. The formula follows:

DOWN TIME FORMULA:

$$\frac{\text{\$8.00 per hour + \$3.20 payroll burden}}{\text{100\% – 20\% down time}} = \frac{\$11.20}{80\%} = \$14.00$$

In other words, an employee who is paid $8 per hour actually costs me $14 per hour.

Now, if you incorporate both employee and mower costs per hour, you will notice a substantial difference between the three mowers. Table 3 shows hourly costs.

TABLE 3 HOURLY COST CALCULATIONS

Mower cost	$1500	$3000	$9000
Employee cost per hour	$14	$14	$14
Cost per mower hour	$1.20	$2.65	$7.18
Total cost per hour	$15.20	$16.65	$21.18

Better cash flow, lower production

Even though the $1500 mower costs less to operate per hour in comparison

TABLE 4 TOTAL COST PER ACRE

	$1500 mower	$3000 mower	$9000 mower
Employee/ equipment cost per hour	$15.20	$16.65	$21.18
Acres per hour	.83	.57	.42
Cost per acre	$12.62	$9.49	$8.90

to the other two mowers, it just takes too long to cut one acre. This will become clear when you look at Table 4. Note that the $1500 mower takes 50 minutes to cut an acre. To calculate this into hours, you divide 50 minutes by 60 minutes, which equals .83 hours.

Even though the $1500 mower is so much easier on my cash flow, this mower is not as productive. I cannot afford a $14.00 per hour employee on a $1500 mower for 50 minutes per acre vs. 25 minutes per acre for the 48-inch mower. It seems incredible, but the mower that costs six times more than I can afford to pay is actually more affordable than I first realized.

Customer cost

Let's take this argument to its conclusion to see what I would have to charge my customers. In the final analysis, it is the customer who pays! To determine this charge per acre, I need to use my costs per acre, shown in Table 4.

Using the JPL mathematical estimating formula, divide: your company overhead + desired profit into costs per acre

TABLE 5 CHARGE TO CUSTOMERS PER ACRE

Total cost per acre = 100% – (overhead % + desired profit)		
1500 mower	$3000 mower	$9000 mower
$12.62	**$9.49**	**$8.90**
100% – (40%+10%) = $25.24	100% – (40%+10%) = $18.98	100% – (40%+10%) = $17.80

I used a 40 percent overhead for this example. See Table 5. This seems to be the average overhead for maintenance companies across North America.

Conclusion

Incredible as it may seem in this case, the $9000 mower proves to be not only more productive per acre, but does the job twice as fast, allowing for more sales!

On the 1000 acres I cut each year, the $9000 mower saves me $7440 ($25.24 per acre for the $1500 mower less $17.80 per acre for the $9000 mower multiplied by 1000 acres). This almost pays for the mower in its first year of savings!

Put your own figures into the above tables, so you can accurately establish what you should be charging your customers per acre. This is the only way you can find out which mower can do the job for you in a way that makes dollars and sense! **LM**

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AIR-COOLED, WATER-COOLED ENGINES

New Zero Turn Mowers from Bush Hog deliver top appearance and efficiency.

Choices include mowers with air-cooled, 18-hp Briggs & Stratton engines or 22-hp Kohler Command engines; or water-cooled, 20-hp Kawasaki engines.

Deck sizes are 48- 52- and 61-inches, and are rounded for closer trimming. Decks are made of 10-gauge steel with 7-gauge side skirts.

Comfortable seating—adjustable, high-back cushion seat and large footrest—and easy-to-use

controls prevent operator fatigue.

Six gallon fuel tanks and a forward speed of 8 mph are other features.

For more information, contact Bush Hog at (333) 872-6261 and mention that you saw it in LANDSCAPE MANAGEMENT, or

Circle No. 282

AIR-COOLED MODEL HAS MANY ATTACHMENTS

Grasshopper's new Model 725K zero-radius outfront mower is the company's largest air-cooled unit. A 25-hp Kohler Command V-Twin

OHV engine provides extra power for all the mower's optional equipment.

The 725K mower is designed to be compatible with all Grasshopper mowing decks, including the Combo Mulching Deck. The Combo Mulching Deck is available for all models of

Grasshopper dual-path, hydrostatic direct drive zero-radius power units.

The Combo Mulching deck comes in five sizes, from 44-inches to 72-inches, and has a "one deck does it all" feature that lets the operator bag, discharge or mulch using the same deck.

The Quik-D-Tatch mounting system lets operator easily switch to one of Grasshopper's year-round attachments. A variety of attachments are available: multi-purpose dozer blades for work in dirt, sand, gravel or snow; rotary brooms for sweeping away dirt, debris or up to eight inches of snow; heavy-duty snowthrowers with 180-degree rotation discharge spout.

For more information, contact Grasshopper at (316) 345-8621 and say you spotted it in LANDSCAPE MANAGEMENT, or

Circle No. 283

SIMPLICITY AND CONVENIENCE FEATURES

Dixon's ZTR1001 uses the Dixon Z-Drive transaxle for hydrostatic performance at a gear drive price.The Z-Drive is a simple, convenient machine. Hand levers provide the operator with light, natural control and use operator presence switches for safe mower operation.

Other innovative features include a laser-cut steel frame with 'A' frame handles for strength and durability and a single point deck lift for quick mowing height adjustment.

The low-profile design for the power unit on the Dixon ZTR1001 features the 15-hp Kohler Command Pro Series engine. The fuel tank is located away from the engine, which makes for

safe refueling. Three mowing deck options are available (36-, 42- and 50-inches) to allow the ZTR1001 to be customized to the commercial cutter's needs. For more information, contact Dixon at (316) 251-2000 or,

Circle No. 284

HYDRAULIC LIFT STANDARD HERE

The Gravely Promaster 300 is available with either 18, 20 or 25-hp Kohler Command engines

and comes with either a 50-inch or 60-inch mower deck. Hydraulic lift is standard equipment which allows easy maneuvers over curbs and other obstructions. Placement of the steering yoke and instrument panel permits operator almost unlimited visibility across the mower deck.

The yoke steering on the Promaster 350 delivers a fast zero-turn radius and the out-front cutting produces a smooth cut with excellent trimming capabilities and better operator visibility.

For more information about Gravely Promaster mowers, contact the company at (910) 777-1122, or

Circle No. 285

HIGH PRODUCTIVITY MOWER

Jacobsen's Turfcat mower comes with powerful, 23- to 45-hp engines, in either gas or diesel.

The Turfcat is an all hydraulic, 2- or 4-wheel

drive machine for smooth operation.

Decks are available as side- or rear-discharge rotary decks, Mulcherizer rotary mulching decks, and Fine Cut Flail decks.

Cutting width options are 72-inch, 60-inch, and mowing speeds reach up to 6 mph for maximum productivity. Snow blower, debris blower and rotary brush are available for year-round performance.

For more information on the Jacobsen line of professional mowers, call the company at (414) 637-6711 and mention LANDSCAPE MANAGEMENT, or

Circle No. 286

MOWER GETS TO THOSE HARD-TO-REACH SPOTS

The Kubota GF1800 2WD and 4WD front-mount mowers make short work of any grass cutting job. The GF1800's compact design provides outstanding maneuverability in tight corners where larger front-mount mowers cannot go. It's powered by an 18-hp, 3-cylinder diesel engine, and features a hydrostatic transmission and a single pedal to manipulate both speed and direction.

The 4WD GF1800 features a unique 2-pedal 2WD/4WD change-over process. This foot-control 4WD can be activated whether the mower is stopped or on the go.

For the operator, the GF1800 offers a wide, semi-flat deck with lots of leg room and a large comfortable high seat. All gauges are placed in front of the operator for easy viewing while working.

There's more, including an optional grass

catcher in a choice of hopper or bag types, plus other performance-enhancing operations that make mowing more efficient.

For more information, contact Kubota at (310) 370-3370 or,

Circle No. 287

MOWER IS QUICK, WITH BAGGING OPTIONS

Scag's new Turf Runner is designed to outperform any mower in its class, says the Mayville, Wisc. company.

The Turf Runner—as its name implies—is quick. It is designed to deliver exceptional bagging performance and single lever change-over to side discharge.

Scag says the mower provides better versatility to the commercial cutter, as it can convert from a rear bagger to a side discharge mower with the flip of a lever.

There's no need to remove the bagging deck to install a costly side discharge deck.

This innovative design (patent pending) allows more cutting time by allowing the operator to respond to changing grass conditions in the field. In addition, the Turf Runner's heavy-duty, 12-inch diameter blower cleanly transfers the grass cuttings from the extra-deep deck to the bagger. It has a large, five gallon gas tank and a 7.5 mph ground speed. For more information, contact Scag Power Equipment at (414) 3870-0100, or

Circle No. 288

360 DEGREES OF MANEUVERABILITY

The new Z Master Z222 Hydro Zero Radius Tractor from Toro is a high-performance rider with 360 degrees of maneuverability. The Z Master is equipped with a 22-hp Kohler Command vertical shaft engine that can cover 25 acres a day at speeds up to 8 mph. Industry comparison studies show that the new Z master is 17 percent faster in ground speed than a leading national brand. The patented Recycler cutting technology also increases productivity 38 percent over bagging, says Toro.

The mower's hydrostatic drive system provides maximum power, precise speed control and smooth handling at all times. This is accompanied by a hydrostatic oil cooling system which features Ross wheel motors and shuttle valves that channel hot oil directly to its oversized oil cooler.

The sleek, floating deck design provides operators with the flexibility to either mulch, bag or discharge clippings in order to leave the lawn looking perfectly manicured. The Z222 is available with a 52-inch Recycler deck; 52-inch or 60-inch side-discharge deck, along with baggers that fit both sizes.

Contact Toro at (612) 888-8801 and tell them you saw it in LANDSCAPE MANAGEMENT, or

Circle No. 289

EDGER ATTACHMENT SPECIAL TO WALKER MOWER

The Stevens Coulter Blade Edger attachment has been developed as an attachment for the Walker Mower. The self-tracking coulter disc on a swing arm smoothly and quickly trims grass along the concrete edge of sidewalks, curbs and walking paths. There are big labor savings, less mess and no flying debris in comparison to the rotary blade type edger.

Simple mechanical blade engagement (eliminating expensive hydraulics), a quick-mount bracket on the tractor, self-sharpening blade, single hitch-pin height adjustment are plusses.

For more information, contact Walker Manufacturing Company at (970) 221-5614, or

Circle No. 290

18 COMMERCIAL MOWERS AVAILABLE

John Deere has a wide variety of mowers for the commercial user, from the 13-hp GS30, to the 28-hp F1145 diesel. Mower decks range in size from 336- to 54-inches. The seven models in the GS Series are backed by a 3-year, limited warranty. Contact Deere at (919) 832-7421, and mention LANDSCAPE MANAGEMENT, or

Circle No. 291 **LM**

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