

CALCULATING COSTS

Is it better to buy a small mower at a cheaper price or an expensive large mower which will finish the job quicker? This article shows you how to calculate your costs.

by Heide Aungst, managing editor

The scene goes something like this: A school system needs a new mower. The school board approves the budget for a 36-inch rotary. The landscape manager knows that a 72-inch rotary would more efficiently mow the football field, but can't explain why.

Budgets haunt even the best landscape managers. But they're a fact of life. Sooner or later most managers have to explain to a higher-up why a more expensive piece of equipment is more economical.

Bill Bedrossian, director of grounds

management for Servicemaster, says it's important to know what type of area you need to mow, before deciding what size equipment is needed.

"Look at how close the trees and buildings are and the total acres to mow," he explains. "For low maintenance areas, usually rotaries fit the bill. For open areas, get the biggest equipment."

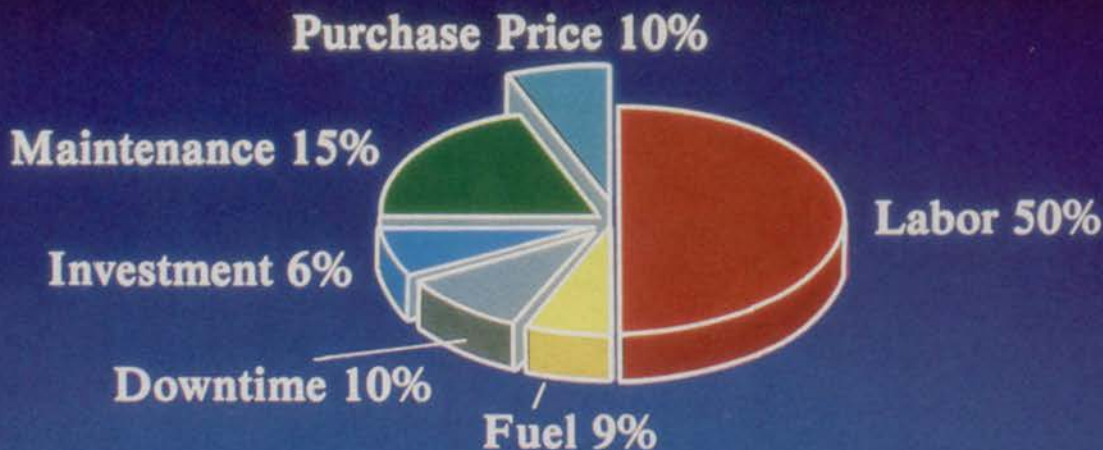
The Professional Grounds Management Society has compiled figures which take into account equipment size, mowing time, equipment cost per hour and per acre, and labor cost

per hour and per acre (see chart).

Labor costs are based on \$7.50 an hour with 25 percent added in for benefits, or \$9.38 an hour.

With this information, it's easy to figure out the most economical equipment to buy. For example, to figure the cost of mowing 150 acres with a 60-inch rotary: multiply total mowing cost (\$13.16/acre) times acreage (150) to get \$1974 per cut; that figure times cuts per season (28) to get \$55,272 per season. But with a 72-inch mower, multiply \$9.04 times 150 to get \$1356, times 28 equals \$37,968 per season.

Total Mowing Cost by Component



MOWING COSTS

Equipment Used	Mowing Time Hrs/Acre	Equipment Cost/Hr	Equipment Cost/Acre	Labor Cost/Hr. (7.50 + 25%)	Labor Cost/Acre	Total Mowing Cost/Acre
20" Rotary	4.70	\$.99	\$4.65	\$9.38/hr.	\$44.09	\$48.74
36" Rotary	2.90	2.82	8.18	9.38	27.20	35.38
48" Rotary	1.60	3.95	6.32	9.38	15.01	21.33
60" Rotary	.91	5.08	4.62	9.38	8.54	13.16
72" Rotary	.58	6.21	3.60	9.38	5.44	9.04
70" Reel	.43	5.26	2.26	9.38	4.03	6.29
84" Reel	.25	5.52	1.38	9.38	2.35	3.73

Comparative Example:

60" vs. 72" Mower on 150 Acres

60" 150A × \$13.16/Acre = \$1974/cut × 28 cuts/season = \$55,272 /season

72" 150A × \$ 9.04/Acre = \$1356/cuts × 28 cuts/season = \$37,968 /season

Difference \$17,304 /season

That's a difference of \$17,304 in just one season. In this case, it would be more economical to buy the 72-inch mower.

Irrigation

When figuring costs for irrigation equipment, Bedrossian says the landscape manager must first ask these questions: Is dormancy acceptable? Can the grass variety be changed?

Then the landscape manager must look at all the costs involved. The annual ownership costs involve securing a water source (well construction, pond construction); conveyance costs (getting water from the source to where it will be used); pump cost; power unit cost; expense of the distribution system; special equipment (sensors, pipe); interest, taxes and insurance. The annual operating costs include water cost, energy, maintenance and repairs and labor.

An in-ground system costs \$804 per acre; agricultural gun with a three-inch hose costs \$872 per acre; while a traveling sprinkler with a one-inch hose costs \$1027 per acre.

"An in-ground system is less expensive in labor and saving of water," Bedrossian says. "In seven to eight years, you'll get a payback with an in-ground system."

Aeration

"Aeration is one of the least expensive practices with the most benefit," Bedrossian says. The cost takes into

consideration going two directions.

The aerator costs \$1.05 per acre; the tractor to pull it, \$5.25 per acre; labor \$10.69, for a total cost of \$16.99 per acre.

Fertilization

For soil balancing and fertilization, invest in a soil test first. It should cost \$3 to \$10. Keep in mind soil characteristics: physical, chemical and living.

Cost to physically balance the soil

Aeration is one of the least expensive practices with the most benefit.

—Bill Bedrossian

includes \$16.99 per acre for aeration; \$450-500 per acre for top dressing; and \$50-\$138 per acre for soil penetrants.

Chemical balancing practices include liming (50 lbs./1000) at \$35-60 acre or sulfur (4 lbs./acre) at about \$40/acre.

The cost of fertilization depends on the needs of the soil. "Use the proper product or you're wasting your money," Bedrossian says. "Be results-oriented."

The type of equipment used also makes a difference in the cost of fertil-

ization. A push-spreader has a labor and equipment cost of \$28.64 per acre. Add \$55 in materials for a total cost of \$83.64 per acre.

A tractor-mount spreader, on the other hand, costs \$7.69 in labor and equipment. With \$55 in materials, the total fertilizing cost per acre is \$62.69, a savings of \$20.95. "It doesn't take long to pay for a \$500 to \$800 cyclone spreader," Bedrossian says.

Contract or in-house?

Weed control is an area where some landscape managers choose to contract out. A contract may raise the direct cost of an application, but could be a savings in other aspects. For one thing, a manager wouldn't need to worry about certification of employees. "Do you want to assume the liability or transpose the liability by contracting out?" Bedrossian points out. "Do you have someone who's certified?"

A wet application of broadleaf weed control done in-house costs \$21 per acre, while contracting it out would be \$45 to \$75 per acre.

A crabgrass pre-emergence granular application with a P.T.O. spreader costs \$66 per acre in-house. A combined spray costs \$65 per acre in-house, and \$75 to \$110 per acre contracting it out.

Bedrossian says that when figuring costs, keep in mind that it may differ from facility to facility. Costs mentioned here are a guideline. **LM**