

by Bill Klutho

There's mower to consider than "just" cutting grass. Mowing is a frequently repeated maintenance task that affects turfgrass condition, playability and field appearance. The match between equipment and your mowing needs also impacts labor hours expended and thus your overall budget.

Because manufacturers constantly are upgrading their machines and introducing new technology to the marketplace, your options in mower selection are better than ever. Take the time to research which combination of mower types will accomplish your objectives most efficiently and cost effectively.

### **Turf Concerns**

Consider the type or types of turfgrasses used on the athletic fields you maintain. Will you be using one mowing height range and level of mowing frequency on a bermudagrass field throughout the playing season? Or, will you be switching to a different



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mowing height and level of mowing frequency when that field is overseeded with perennial ryegrass? Do you use one type of turfgrass on your game fields and another type on your practice fields? Do all of your athletic fields use the same type or types of turfgrasses, but other turfgrass types

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are used on the other areas of the properties you maintain such as the space surrounding a stadium or the landscaped sections of a school campus? How do these variations affect your mower needs?

For example, with a quad of baseball fields, will your crew use a walk behind reel mower for the infields and ride on reel mower for the outfields? Or, will they use a ride on reel mower for all field areas, but adjust the height of cut between the infield and outfield areas of the fields? Or, will they use a reel mower on the infields and a rotary mower on the outfields, or a rotary mower on all the field area?

Will the mowers be stored on site with one crewmember generally handling all the infield mowing and a different crewmember all the outfield mowing? Or will the mowers be used by a dedicated mowing crew with the mowers transported from a central maintenance location to different mowing sites each day?

Consider mower size and maneuverability issues in relation to field mowing patterns. Will the operator use a rotary mower for all the turf area of a multiple field soccer complex? Or, will each field within the complex be mowed in a cross-field pattern, with the operator moving from field to field?

Consider operator comfort, especially with dedicated mowing crews. Operator comfort translates to reduced fatigue and higher productivity. When making mower selections, ask crew members to assess the little things such as the placement of controls within the operator station and the ease of cutting height adjustment.

### **Mowing Time Comparisons**

Obviously, the wider the cutting unit, the greater the area cut with each pass. But a ride-on rotary mower with a 60-inch cutting unit and a walk behind reel mower with a 30-inch cutting unit may both have a place in your mower line up. Actual mowing time for different sized mower decks can be calculated by using the John Deere formula listed below:

#### 108.9 divided by

 $(mph \ x \ 0.9 \ x \ (mower \ deck \ width \ in \ inches) = hours to mow an acre$ 

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# Investigating the Match Factor— Equipment Purchasing Considerations

Getting a job done right requires the right tool at your fingertips. This is also vital for creating beautiful results in the least amount of time. Without the right equipment, turf maintenance can be like trying to mow a soccer field with a pair of scissors.

"With so many machines and so many applications, the customer and the salesperson need to find the right machine for the job," advises Mark Nelson, Manager of Product Training at Textron Golf, Turf & Specialty Products. With the wide range of equipment available today, you should consider the following factors to assure the best match for you and your facility:

**Duty and durability** Any machine, e.g. a mower, needs to be durable in all conditions. It should stand up to the most extreme heat and humidity without breakdowns. While a strict maintenance schedule is necessary to achieve long service life, engines should be designed for strength and performance. When you are researching and comparing utility vehicles, investigate an engine's towing ability to avoid potential problems later.

**Terrain** School playgrounds and parks are often filled with obstacles for maintenance equipment. Zero-turningradius mowers work well under these conditions, allowing quick maneuvering around trees and playground structures. Stadium or sports field maintenance, on the other hand, presents the opposite terrain condition. Here, a maintenance crew might benefit more from a wide, highproduction riding mower than from a walk-behind or zeroturn model. Likewise, a tractor-mounted or tow-behind aerator might be preferable to a walk-behind machine.

**Location** Parks and schools have neighbors. Equipment powered by a gasoline or diesel engine can annoy a nearby community and make it difficult to mow during early-morning hours, after dusk, or during school hours. One alternative is an electric-powered mower. Another is to purchase the quietest gas/diesel model you can find.

To most people, a mower is just a mower. Those in the grounds maintenance field, however, understand the differences among walk-behind, front- and mid-mounted and large-area mowers. Aerators and utility vehicles also come in all shapes and sizes with various features. Knowing the differences among brands and models is the first step in finding the best machine for the job—whatever type of equipment you need.

Lisa Olson is a representative of Textron Golf, Turf and Specialty Products. Contact your local dealer, or call (888) 922-TURF for information on a variety of Textron Golf, Turf & Specialty Products maintenance equipment.



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Hours to mow an acre x 60 minutes = minutes to mow an acre

The factor 108.9 includes the acres per hour dimensions and a 10 percent time factor for turning at the end of swaths.

The mowing speed is the miles per hour rating at the recommended mowing gear or the usual ground speed. (John Deere uses nine-tenths of the mower deck width to factor in overlapping swaths for a uniform mowing job.)

Here's an example: If the normal, safe mowing speed of a ride on mower is 3.5 mph and the mower deck width is 38 inches, then multiply 3.5 time 34.2 inches (nine-tenths of 38). The product is 119.7. Divide 108.9 by 119.7 and get the answer 0.909, or 0.9 hours. Multiply that by 60 minutes to get the answer of 54 minutes.

To mow an acre of flat, open turf with a 38 inch mower deck at 3.5 mph will take approximately 54 minutes.

Using the same formula: A 72-inch mower deck operating at 4 mph can mow an acre of turf in 25 minutes.

A 54-inch walk-behind mower at a 3.3-mph ground speed can mow an acre of turf in 41 minutes. A 38-inch walk-behind mower at a 3.3-mph ground speed can mow an acre of turf in 58 minutes. A 21-inch walk-behind mower at a 3-mph ground speed can mow an acre of turf in one hour and 55 minutes.

These calculations give you a starting point for determining the match between staff levels, area to be mowed and mower options. For more precise calculations, use a stopwatch to measure performance on each field. Use at least three repetitions during similar mowing conditions. You may find the combination of turf density and cross-field mowing patterns adds a five or ten percent time factor for your game fields as compared to your practice fields or to other turf areas you maintain. You'll also want to factor in the additional mowing time needed for wet conditions or for additional passes to "burn in" a mowing pattern.

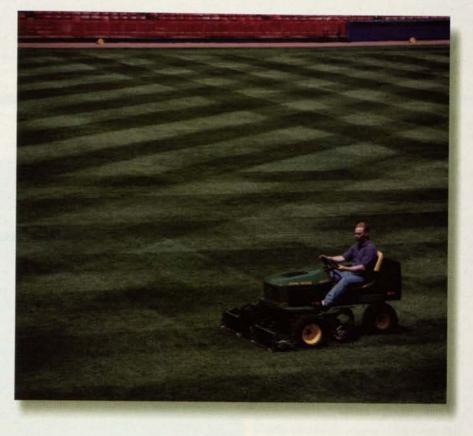
This analysis may show the addition of small walk behind mower or a larger ride on mower to your line up could quickly pay off in terms of increased crew productivity.

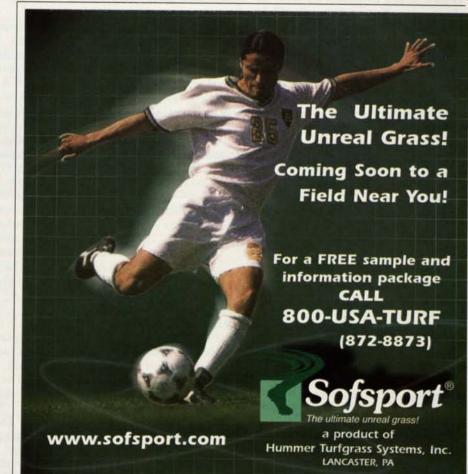
### **Quality of Cut**

Obviously on sports turf, where every blade of grass contributes to the safety of the athlete and field playability, quality of cut is the most important mowing factor.

Athletic turf is subjected to an extreme degree of stress so mowers must be as easy on the turf as possible. Since cutting units must deliver a clean cut, without tearing the tip of the grass blade, serviceability is a major concern. Height of cut adjustments must be easy to make and must remain precise throughout the day. Mowers must be able to execute the frequent turns without scuffing or damaging the turf. The machines must have the durability of an athlete, able to perform at top levels day after day, week after week.

Bill Klutho is the public relations manager for the John Deere Worldwide Commercial & Consumer Equipment Division headquartered in Raleigh, N.C.





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