

EVENTS

CALENDAR

DECEMBER

8-11 Ohio Turfgrass Conference and Show, Ohio Center, Columbus, OH. Contact the Ohio Turfgrass Foundation, (614) 422-2601.

12-13 Southern Nevada Desert Turfgrass Conference, Palace Station Hotel/Casino, Las Vegas. Contact Bob Morris, Nevada Cooperative Extension, 953 E. Sahara, Suite #207, Las Vegas, NV 89104. (702) 731-3130.

15-17 Texas Turfgrass Conference and Show, Hilton Palacio del Rio, San Antonio. Contact Texas Turfgrass Association, 3603 Holly, Bryan, TX 77802.

JANUARY

5-7 Maryland Turf Conference, Baltimore Convention Center. Contact Dr. Tom Turner, Department of Agronomy, University of Maryland, College Park, MD 20742. (301) 454-3716.

21-23 Virginia Turfgrass Conference and Trade Show, Virginia Beach Pavilion Convention Center, Virginia Beach, VA. Contact J. R. Hall, (703) 961-5797.

21-22 Northern California Turf & Landscape Exposition, Santa Clara Convention Center, Santa Clara. Contact Northern California Turfgrass Council, P.O. Box 268, Lafayette, CA 94549.

31-1 Sports Turf Managers Association Annual Meeting. Phoenix Civic Plaza, Phoenix, AZ. Contact STMA, 1458 North Euclid Ave., Ontario, CA 91764. (714) 984-4677.

31-2 58th International Golf Course Show, Phoenix Civic Plaza, Phoenix, AZ. Contact the Golf Course Superintendents Association of America, 1617 St. Andrews Drive, Lawrence, KS 66046. 1-800-GSA-SUPT.

THE FRONT OFFICE

OPINION PAGE

TRADE SECRETS ONLY SLOW PROGRESS



Athletic field managers can learn a lesson from what took place in golf course management. Secrecy does not promote job security, it only slows the application of important turf management techniques.

Back in the days when golf course superintendents were called greenskeepers, secrecy was a big part of job security. The vast majority of early golf courses were private. Facilities operated independently from each other and rarely shared turf management information. The important skills needed to maintain golf courses were slowly passed on to apprentices who were lucky

enough to be taken under the wing of knowledgeable greenskeepers.

Following World War I, the United States Golf Association formed the Green Section to develop and spread golf course management techniques to its member clubs. Green Section Director Dr. John Monteith cooperated with two turf scientists employed by the United State Department of Agriculture, Drs. C.V. Piper and R. A. Oakley. In 1917, Piper and Oakley had coauthored the first comprehensive book on golf course turf management, "Turf for Golf Courses."

The combination of an association collecting and disseminating technical information, a book which put management practices into perspective and the support of the government was the key needed to start lifting the cloak of secrecy off golf course maintenance. With the help of the "Green Section Bulletin," secrecy was slowly replaced with scientific information on turf management.

Had this foundation not been established, the rapid development of golf courses after World War II would not have been possible. The number of golf courses doubled as Americans sought to get away from War and enjoy a few rounds of golf like President Dwight Eisenhower did. During this boom, the percentage of public courses started rising rapidly since private courses could not meet the demand. Finding and training the people to build and maintain these courses would have been a significant obstacle to growth if the university community had not been prepared to handle them.

Compare the development of the golf course market to the current status of athletic fields today. We are facing a demand equal to or greater than the post-war demand for golf courses. Yet, the foundation is new and not fully developed. Secrets are still a big part of the trade. Most equipment and chemicals are adapted from golf course management or landscaping. If golf course technology wasn't closely aligned, we'd be in a real mess.

Everyone in the business of athletic field management needs to help build the foundation for the market now. Universities and extension agents are feeling the pressure from athletic field managers. They are starting to respond with programs. A book on athletic field management is being written. State turf associations are adding sports turf programs to their conferences. The Sports Turf Managers Association is making adjustments to serve the market as it grows.

A whole sports turf contractor industry is needed to help the institutional turf manager. Read the story about Kevin McCarthy on page 12. You'll begin to understand that there are solutions to institutional sports turf problems that have just started to gain recognition. That's how young the market is now.

We don't have time for secrets. Get involved. Share your knowledge. The market needs your help now.

Bruce Shank

Contractor Provides To Worn

Years of heavy, uncontrolled use were taking their toll on New England's limited number of athletic fields.



Harvard University's stadium field dressed up for soccer.

Kevin McCarthy is a small businessman and he wants to stay that way. But lately he has had more work than he can handle.

McCarthy started an athletic field renovation company in 1977 in Peabody, MA, one year after completing a degree in environmental design. He could have signed on with a landscape architecture firm or landed a design job with a landscape installation contractor, but the independent thinker shunned conventional career choices. He sensed there were other opportunities and other challenges in landscaping.

Turf and sports were in his blood. As a teenager he worked summers on the crew at Colonial Country Club in Lynnfield, MA, and continued his turf education at Essex Agricultural & Technical Institute. But then McCarthy's mind began to stray to other aspects of turf management. He wasn't sure he wanted to be a golf course superintendent, so he transferred to the University of Massachusetts to explore other avenues available to him.

Upon graduation, he decided to help a friend with his custom spraying business for golf courses. His friend had purchased the large spray equipment many municipal and small daily fee courses did not own.

By taking over fertilization, weed control, insect control and disease control, they provided better results and saved the courses the expense of buying the equipment and training someone to apply pesticides.

"We were the only ones in the area doing custom golf course spraying," McCarthy reflects. "The concept was interesting and very sound. However, after a year of trying to convince public works directors and

municipal golf course superintendents who were very set in their ways to try something new, I decided to take another direction."

One thing stuck in his mind from his previous experience. He knew towns didn't have the labor, the equipment or the expertise to do many types of turf work. Public works directors who were often in charge of parks, municipal golf courses and school athletic fields had difficulty justifying the expense of large equipment to city budget directors. Voters were resisting tax increases even though the pressure on public athletic fields was increasing each year. There were few places where new fields could be built. Women's sports and youth leagues were expanding rapidly. The public works director was in a jam.

Since McCarthy knew most of the public works directors within 30 miles of Peabody from his custom spraying job, he thought he might have better luck by expanding the services he could provide and concentrating on athletic fields. Anybody can mow grass, he thought. As long as the soil structure and drainage hold up, simple fertilization and mowing will keep a field green. But years of heavy, uncontrolled use were taking their toll on New England's limited number of athletic fields.



Kevin McCarthy

Affordable Solution Out Fields



Worn-out football stadium field before renovation.

Undaunted by failure, McCarthy kept juggling ideas in his mind until the right combination was revealed. Rather than giving up, he created his own business called Greenway and started to develop custom programs to help towns and private institutions keep their fields from collapsing under heavy use.

About the same time, parents started to call local newspapers when their children got injured on area fields. "The local press started investigating field conditions and were on constant watch for any injuries that were field-related," McCarthy says. The towns had to do something without raising taxes. Buying equipment and hiring experienced turf managers was something they wanted to avoid if possible.

To prove his programs worked at a fraction of the cost of buying equipment and hiring personnel, McCarthy's pitch was to sell them on using the program for one field. He could renovate a football or soccer field at less than a fourth of the cost of reconstruction. His price was also below the \$4,000 mark set by the state for bids. The town did not have to purchase a single piece of equipment or add staff.

Convinced he was on the right track, McCarthy purchased an aerifier, large broad-

cast spreader, topdresser, boom sprayer, tractor, slicing seeder, utility vehicle, rototiller and landscape rake. If other equipment is required, he rents it for the job. All this equipment saves his customers thousands of dollars.

"I wanted an equipment-based operation for a reason," he states. "Labor is just as expensive for me as it is for the cities, at least \$8 per hour. I wanted to hire someone to work throughout the year, someone who would become familiar with conditions at each job site. It's hard to find good people here willing to work at \$4 per hour, so you're forced to replace as much hand work as possible with machinery." All work is performed by McCarthy, assistant John Carey or two part-time crewmen.

Each program is custom-tailored to fit the particular field. Once a field is renovated, Greenway follows up with a management program to maintain drainage and soil condition levels to where the field can withstand the beating of heavy sports use.

"We try to talk with everybody involved with the field before making our recommendations," reveals McCarthy. Each person's input helps identify the problems which must be worked out to win their support. "I've found that if specifications aren't tight," he

A contractor could provide better results and save towns the expense of buying equipment and training applicators.

advises, "the town loses out. It's the combination of specific work that makes the renovation effective. Just to say cultivate, grade, fertilize and seed in a proposal will open up the job to those who really aren't familiar with athletic field considerations."

Renovation begins with a site evaluation and soil test. After soil test results are back from the lab, the design team goes to work. McCarthy, or an engineer, does drawings for each field to show dimensions and elevations. By planning each job and relying heavily on equipment, the company can completely renovate a field in one day.

The first step is "quaking" the top four inches of soil by making two passes over the field with a rototiller with vertical blades. This restores surface drainage and conditions the soil. "One pound per 1,000 square feet of 10-10-10 fertilizer and 1,000 pounds of ground limestone are mixed into the topsoil because we are seeing definite effects of acid rain on area fields," adds McCarthy.

The soil is then power-raked and graded by a subcontractor to include a crown for proper drainage. A Brillion seeder is used to sow 350 pounds of a blend of three perennial ryegrasses. A starter fertilizer with pre-emergence broadleaf herbicide (siduron) is

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Affordable Solution

continued from page 13

applied with the broadcast spreader after the field is dragged. If the field does not have an irrigation system, water cannons are brought in for six weeks.

Six weeks and \$3,300 later, the customer has a top-notch field. All he has to do is mow properly. And that's all he'll ever have to do if he takes Greenway up on its annual maintenance program. For as little as \$1,800 per field, the company will aerify the field to fight off compaction and take care of all fertilization and weed control. It topdresses the field with medium-size sand to keep it smooth and resilient and slice-seeds once in the spring and again in the fall. McCarthy tests the soil each year to check pH and nutrient levels and periodically checks the field for any disease or insect problems that might occur.

If there is a problem with the field, McCarthy works with the facility turf manager to correct it. "Once the turf manager on site sees his new field, he becomes more receptive to advice," explains McCarthy. A maintenance guideline is provided following renovation which covers mowing, irrigation and suggestions for controlling field use.

He recommends that soccer and football fields be mowed at least once a week between two and three inches. He stresses the importance of keeping blades sharp and suggests the cutting height be raised during summer months. During regular visits, McCarthy will check to see if the field is performing as it should and goes over any problems with the turf manager.

"I also try to keep in touch with athletic directors and coaches where possible to get their opinions on the fields," he adds. "It's important to get feedback from everyone who has a say in field management."

A fun part of McCarthy's job is keeping track of the teams playing on his fields. "Salem State College was Division 3 soccer champion this past season," boasts McCarthy. "We pay special attention to keeping their field smooth."

Baseball fields are also an important part



Sand topdressing is part of Greenway's annual maintenance program.

of Greenway's service. As a whole, McCarthy says, baseball fields get less abuse. There are key wear areas, such as where the outfielders stand, around the dugouts and between home plate and the pitcher's mound. These areas need to be periodically topdressed and overseeded to keep them from wearing thin.

Maintaining the skinned areas is the real art of baseball field management, he says. Edging the base paths with a sod cutter, adding new clay mix and removing any clay which has built up on the turf adjacent to the skinned areas brings an average baseball field up to professional standards. The pitcher's mound is rebuilt to specifications and McCarthy shows the field manager how to keep it that way.

Greenway has the equipment to haul in new basepath mix, spread it, cut the edges and pack it in half a day. This service comes in handy when a college team makes the finals and becomes host for a tournament game.

"As a team improves it wants a better field," McCarthy points out. The Manning Bowl in Lynn, MA, called Greenway in late

May. The problem was they wanted to play their first football game in early August. McCarthy couldn't schedule the job before mid-June due to other work. To speed up establishment of the field, McCarthy soaked the ryegrass seed in 55-gallon drums of water for two days to pregerminate it. The water was changed every few hours. When the seedbed was ready, the seed was mixed with Milorganite and Turface and spread over the field. The turf was thick and healthy when the players jogged onto the field for their first game. McCarthy plans to slice seed the field with Kentucky bluegrass next year.

Drainage and irrigation installation are subcontracted out by Greenway. But McCarthy is looking closely at slit-trenching, a process where narrow trenches are cut across the field and backfilled with sand. "The machine that does this is one of the few pieces of equipment made specifically for sports turf," he states. "Up to now we have had to adapt golf equipment and landscape equipment to fit our needs. That's starting to change."

He is also checking into fabric-wrapped drainage structures which are inserted into narrow, shallow trenches. "This type of drainage system requires much less handling of soil and fits our type of service well," he believes. By keeping on the lookout for new products that solve the main sports turf problems, Greenway can be relied upon by its customers to have the answers, the equipment and the expertise to keep their fields in shape.

"We've been travelling up to 60 miles each way to renovate fields and set up maintenance programs," McCarthy says with a sigh. "We could go further, but I'm afraid it would force us to grow more than I'd like. I like having a small business and dealing with people on that basis. It's time for others with sports turf knowledge to invest in the necessary equipment and go out on their own. The need is so great and the budgets are so tight, it's really one of the best ways to improve the worn-out, compacted fields in this country." ☘



A rototiller with vertical blades breaks up the compacted topsoil.

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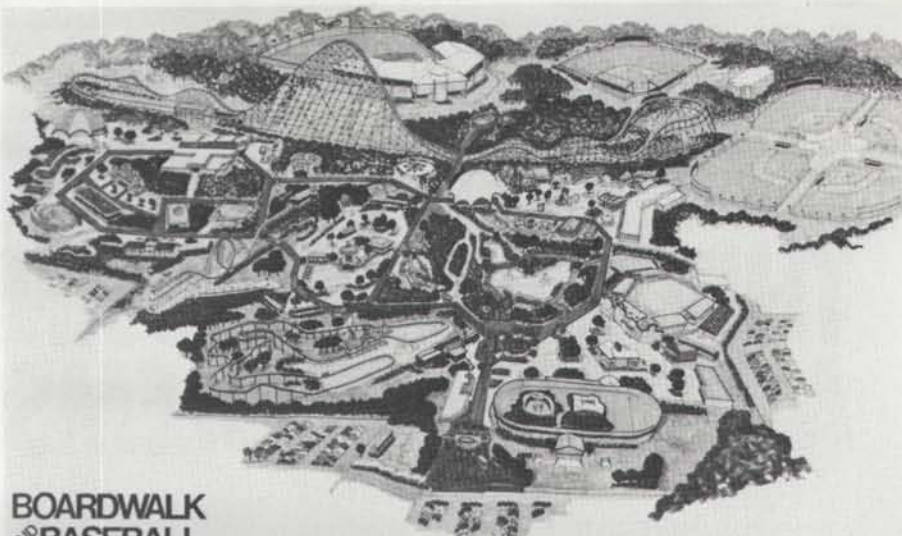
ROYALS TO TRAIN AT BASEBALL THEME PARK

The Kansas City Royals are moving their Florida spring training facility from Fort Myers to the Orlando area to be part of a new theme park called Boardwalk and Baseball, opening Valentine's Day. Harcourt Brace Jovanovich, Inc., owners of Sea World and Cypress Gardens, recently purchased the former Circus World park (located between Orlando and Tampa) in addition to the Royals' Class A Florida State League team.

Six major-league-size baseball fields and a 7,000-seat stadium are being built under the watchful eye of grounds superintendent Mike Hurd, with advice from George Toma of the Royals. The Royals will be the featured attraction during spring training and their Class A team will take over during the summer.

Baseball is just one part of the theme park. An authentic boardwalk will link the baseball facilities with thrill rides, live entertainment and a midway reminiscent of Coney Island or Atlantic City. Thirty-one rides, including a half-mile-long log flume which ends in a mid-park lake, a giant Ferris wheel, a wooden roller coaster and a carousel, will keep tourists entertained between games.

Three shows will be scheduled daily. More than 40 actors dressed as cowboys, Indians and assorted frontier characters will take part in the Colorado Riders show. Profes-



BOARDWALK AND BASEBALL

The Kansas City Royals will hold spring training at Boardwalk and Baseball beginning on Valentine's Day 1987.

sor Bubble's Magic Fun Factory is a magic show for children during which balloon animals turn into life-size characters and house plants sing. A 33-minute film will provide visitors with a dramatic tour of the Grand Canyon.

"We've taken two American traditions and combined them into one attraction," says

Richard Howard, president of Boardwalk and Baseball.

A second Boardwalk and Baseball will be constructed in San Antonio next to HBJ's newest Sea World. So far there is no indication which major league team will move its training facilities there when it opens in 1988.

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YAMAHA PICKS ATLANTA FOR FIRST U.S. PLANT

The first manufacturing plant in North America for Yamaha Motor Co., Ltd., of Iwata, Japan, is being established near Atlanta, GA.

A 250-acre site near Newnan, GA, has been chosen for the new 1.2-million-square-foot facility. Construction on the first of four buildings will start in December, with manufacturing slated to begin in the spring of 1988. Newnan is located some 35 miles southwest of Atlanta.

According to Yamaha President Hideto Eguchi, the decision to establish a plant in the U.S. is the result of the firm's strategy to build manufacturing facilities in areas where product consumption is concentrated.

"Our corporate goal is to be responsive to the changing needs of our dealers and their customers," he said.

Initially, the plant will manufacture Yamaha's Sun Classic closed community transportation vehicles; Yamaha golf cars; and a soon-to-be-introduced line of personal water vehicles using jet-drive propulsion. Later, Yamaha will expand production at the plant to include other products.

"As consumer demand for Yamaha's quality motor products continues to grow in the decade ahead, we need to respond with increased production while not contributing to the trade imbalance between our two countries," said Eguchi.

The Newnan plant will be operated as Yamaha Motor Manufacturing Corporation of America. It will also serve as a worldwide distribution center, exporting its products to Canada, Europe and Asia.

TORO ENTERS EXERCISE MACHINE MARKET

Last year The Toro Company entered the exterior landscape lighting business. This year it is going inside with an exercise machine called the Isopower.

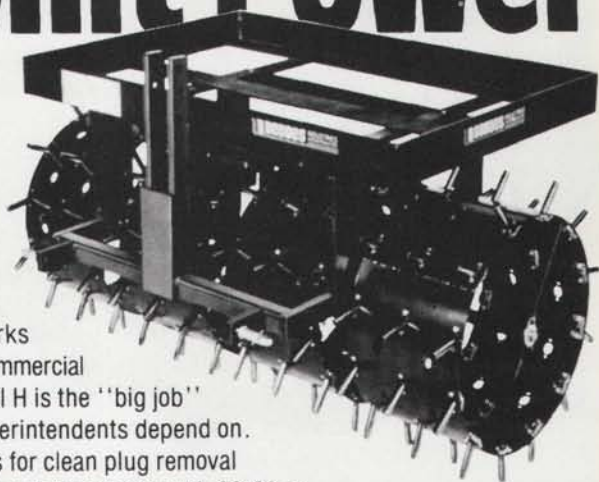
The unit was designed primarily for physical rehabilitation programs, says Bob Moeller, executive vice president.

Using an electromagnetic continuous-resistance system, the unit can exercise seven different groups of muscles by utilizing five different attachments. An electronic control center adjusts the resistance automatically. No weights or pulleys are involved.

"This machine is for professional rehabilitation, not the general public," Moeller advises. "We were surprised when Playboy magazine named the Isopower one of the most innovative products of the year during a recreational equipment show. We were grateful for the recognition, but had to decline their offer to have one of their bunnies pose with the device for use in the magazine." The photo ran without the bunny.

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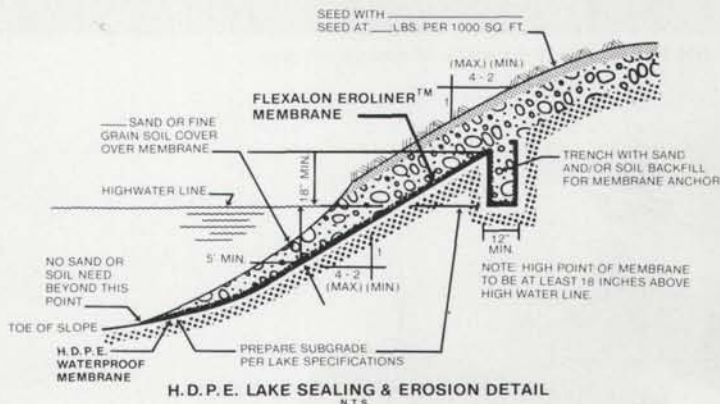
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The Toro Reelmaster 216 has a hydrostatic transmission and six-foot cutting width.

To the casual observer, or even to the dedicated sports fan, mowing sports turf is no big deal. No one places a bet on a game based upon the type of mowing equipment the turf manager uses.

But, behind the scenes, there is a growing awareness of the impact of mowing equipment on the condition of natural turf fields and the cost of field maintenance by administrators, turf managers and even players. This awareness is not limited to management of professional stadiums. Some of the greatest changes are taking place at the college and park levels.

Just as golf course superintendents use specialized mowers for different turf areas on their courses, park superintendents and field managers for educational institutions have begun to recognize the need for separate mowers for utility turf and sports turf. They have begun to realize that a quality mower is as important as the lights, bleachers, fencing and scoreboards on these fields.

Managers of sports facilities are also discovering that specialized mowing equipment not only allows them to improve the appearance and condition of their turf, it allows them to control labor costs through increased productivity. Equipment manufacturers have been lowering labor require-



John Deere is introducing a series of reel mowers this winter.

ent Mowers Boost Quality

ments for turf management for decades.

Much of this labor-saving technology came from developments by agricultural equipment companies, says Bill Kinzer, turf products manager for Jacobsen. He points to the use of hydraulics to power blades and lift cutting units, four-wheel drive for better traction and the growing use of diesel engines.

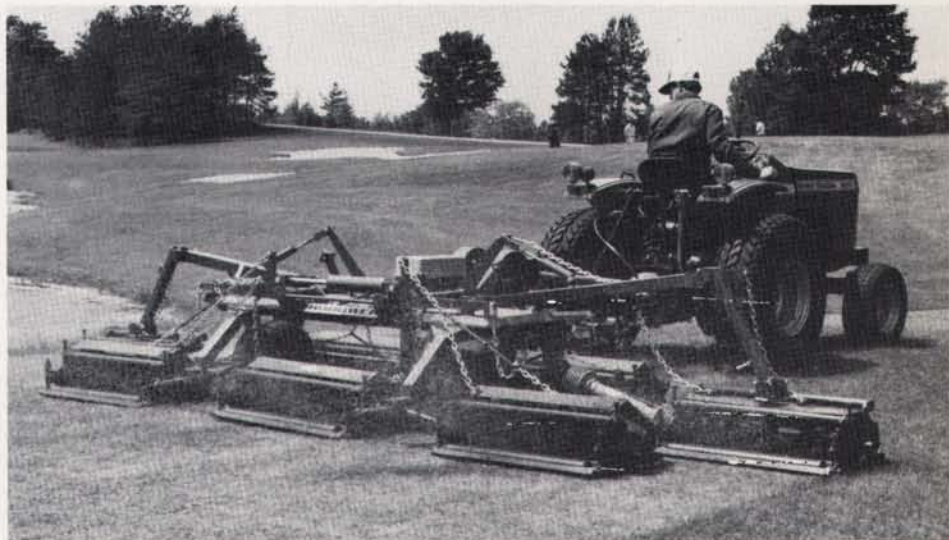
Dr. Jim Watson, vice president of The Toro Company, has been advising his company for more than 30 years on how to help institutions reduce their labor costs while improving turf quality. He has been a strong proponent of lighter-weight mowers, more blades on reels for a finer cut and increased maneuverability.

These improvements all have their price. But the savings in labor have exceeded the increased cost of the equipment, especially when amortized over the life of the mower. For example, Tampa Stadium has reduced the size of its crew from 25 to 13 in the past four years. Part of the staff reduction was made possible by replacing old walk-behind mowers with a triplex reel unit for the stadium field and a 52-inch out-front rotary for the practice fields and parking lot turf. "We cut mowing time by two-thirds and now have better turf than before," grounds manager Jim Salemi states.

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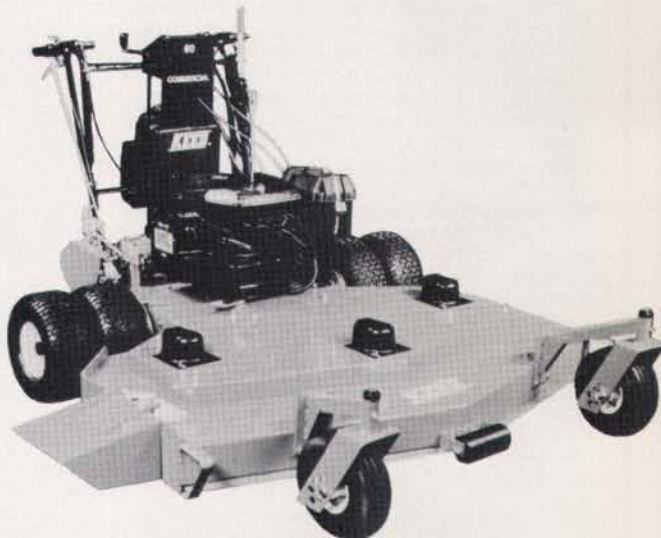
An air-injection system helps Cushman's Front Line rotary pick up wet clippings.



Broauer's seven-gang, mechanical-drive reel mower.

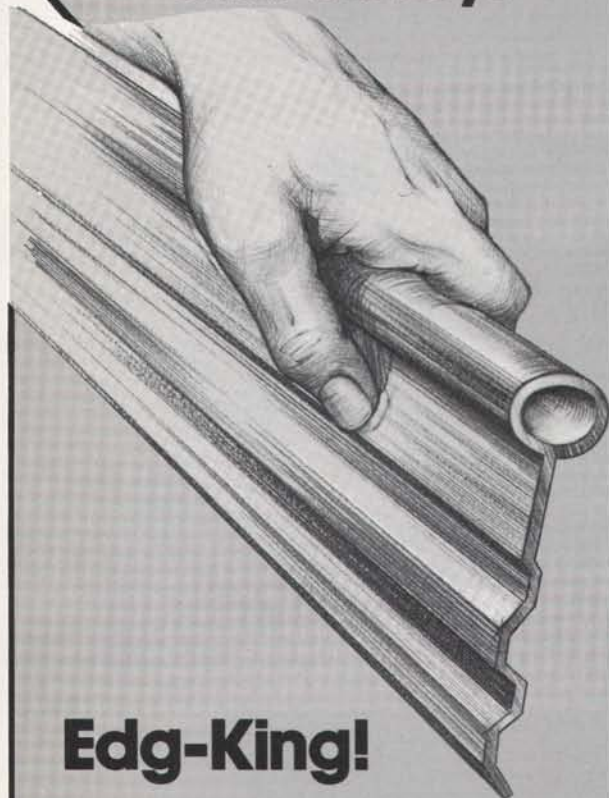


Bunton's Multi-Trac cuts a 16-foot swath but is only eight-feet-wide during transport.



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More Efficient Mowers

continued from page 19

Salemi is a good example of today's sports turf manager. He is responsible for more than playing fields. His mowing needs are best met with a combination of mowers. His stadium field now receives the high-quality cut of a reel mower, and utility turf areas are quickly cut with a highly-maneuverable rotary tractor. In addition to the stadium, the crew maintains a 6,000-seat baseball stadium, a four-field spring training complex used by the Cincinnati Reds, and an all-grass parking lot big enough for 10,000 cars.

"It's not just stadiums that are buying specialty mowers," reveals Stan Kinkead of National Mower Company. "Parks, school districts and colleges are buying reel equipment to mow their best fields and using rotary and flail equipment for everything else. After all, a reel mower for a flat field doesn't really need all the features of a golf course reel mower. Because it runs only a few hours each week, it will last longer and require less maintenance."

Dick Lehman, vice president of Ransomes, Inc., says turf managers in most cases want to pick up clippings when mowing sports fields. "The pattern made by the mower on the field becomes more important. The operator takes pride in how straight he can make the pattern in the outfield of a baseball field or between the five-yard lines of a football field. He's not just cutting grass."

Reel mowers have come a long way since gangs of them were pulled by a team of horses in the early 1900s. You knew the horsepower of your mower by counting the number of horses attached to the harness. The blades of these reels were turned by gears driven off one wheel of each unit. The faster the horses walked, the faster the blades turned.

The tractor took over for the horse in the '20s. Blades were still wheel-driven. The Worthington Mower Company and The Toro Company designed special tractors just for mowing parks and golf courses. The reels hung from arms attached to both sides of the tractors which could be raised for transport. But the simplicity of the tow-behind gangs and the availability of small agricultural tractors made the tractor-drawn gang reel mower dominate turf mowing for the next 20 years. In fact, these same mowers are used regularly on many parks and golf courses today.

As small, internal-combustion engines were perfected, they were used to power one- to three-reel, walk-behind mowers. The combination of walk-behind and tractor-drawn reel mowers served parks, schools and golf courses for years.

The rotary mower concept, originated in the late '30s, took years to catch on at the commercial level. Rotaries offered simplicity and weighed less than reel mowers. But it wasn't until the '60s, when rotary cutting units were mounted underneath small tractors, that they began to assume a significant role in commercial turf maintenance. In the same period, the walk-behind rotary mower was quickly replacing the reel mower for homeowner use.

During the late '60s, mower manufacturers started to explore the potential of driving reels and rotary cutting units with the power takeoff (PTO) of small tractors. Belly-mounted, belt-driven rotary tractor mowers were limited in maneuverability and interchangeability. Agriculture had demonstrated how one tractor could do several jobs by utilizing the PTO. Farmers were the first to have PTO-driven flail and rotary cutting units, but they were attached to the rear of the tractor where the operator could not see them.

The first mechanically-driven five-gang reel mowers were introduced in the early '70s. The manufacturers quickly discovered the weaknesses of the standard tractor for mowing equipment. They wanted the cutting units to be in front of the operator and not behind him. They wanted to be able to turn mowers sharply so they would not leave uncut areas at the end of rows. They wanted to pick up cutting units easily for transport. They also wanted a tractor with a lower center of gravity that would be more stable on slopes.

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