



# Rx FOR HEALTHIER TURF

## GROOMING PROMOTES VERTICAL GROWTH

STORY AND PHOTOS  
BY DAVID WOLFF

**S**imply put, turf grooming is a means of managing turf's growth habit to provide a quality, healthy plant. The process uses narrow vertical blades (thin kerf) to clip the advancing growing point of turfgrass periodically.

Grooming is the easiest, most stress-free way to promote vertical growth in golf course turf, says M.C. Engelke, Ph.D., a professor and faculty fellow at the Texas Agricultural Experiment Station in Dallas, which is an agency of the Texas A&M University System. Groomer use helps eliminate grain, smooths irregularities and makes individual blades stand erect for consistency and better play. Regular groomer use will foster thicker plants and healthier, more robust turf.

"It's important to distinguish grooming from vertical mowing," says Engelke, who's also a consultant to Jacobsen specializing in the identification, production and maintenance of turfgrass. "Both processes

use vertical blades, but from a biological standpoint, this is where the similarities end. Verticutters use rotating vertical blades, which penetrate deep into the crown area of the plant, and possibly below, severing stolons and stems. This generally provides an effective means of reducing or removing thatch.”

Groomers are lightweight versions of verticutters, and they help reduce grain and lift turf for a cleaner cut. This is accomplished by setting the blades at or slightly above the height of cut (bedknife setting).

“From a biological standpoint, however, adjusting the blades to just below the height of cut (initially not to exceed 10 percent below the bedknife) provides stimulus to the plant to initiate new growing points,” Engelke says. “The rotating vertical blades sever the expanding culm (stem), remove the plant apex (growing point) and force the crown to generate a new bud.”

#### LIGHT SCALPING

Turf grooming can be compared to light scalping but on a much-reduced scale. Using one-half-inch spacing between vertical blades that are one-eighth-inch thick results in about 3 to 5 percent of the culms being clipped during each mowing. Each grooming “scalps” a fraction of the turf, which is staged in a timed recovery response.

“By repeatedly using groomers, the entire turf community is eventually forced to be in a rejuvenated state with new growth from the crown of the plant,” Engelke says.

Grain occurs when the culm or stem is allowed to elongate and lean a particular direction with the growing point at the cut end of the stem. If the stem is removed periodically and new growth is initiated from the base of the plant (crown), the subsequent growth is forced to be more vertical and less prone to developing a grain and less prone to scalping.



At Red Hill Country Club, superintendent Craig Kimmel uses turf groomers on his walk mowers for greens and collars, and on three fairway mowers.



At Palos Verdes Golf Club, Pat Gradoville, CGCS, cuts kikuyugrass fairways three to four times a week and uses turf groomers every other mowing.

Besides altering the way the plant grows, the position of the growing point is changed also.

“With the extending stem being severed (scalped), the plant will initiate new growing points at the crown,” Engelke says. “Repeated mowing with turf groomers encourages and conditions the plant and turf to grow tighter to the soil, making for a firmer, more open canopy. This open canopy aids in escape of excess moisture and provides a healthier, more resilient turf.”

#### OVERSEEDING REQUIRES GROOMING

Turf grooming can be critical especially prior to overseeding. When ambient air and soil temper-

atures decline during the fall, the plant begins to store carbohydrates in the roots, rhizomes and stolons. This helps with winter survival and spring green-up and transition.

With the acceptance of overseeding warm-season grasses with a cool-season grass such as *Poa trivialis* or perennial ryegrass, it has been a standard practice to verticut heavily and even scalp the turf. Scalping is accomplished via a verticutter, flail mower or reel mower set low enough to remove excess plant material.

“Not only is this a laborious task, but it also disrupts the course, creates considerable debris that must be removed and, more importantly, reduces the plant’s ability to store additional carbohydrates for winter survival,” Engelke says. “In many cases, it also will force the plant to use much of its stored carbohydrates just to finish out the fall growing season.”

A three-year grooming study conducted by Engelke resulted in improved turf health, fall color retention and spring green-up. The need for extensive fall preparation for overseeding was reduced, providing a superior turf during the fall and spring transition with improved winter survival.

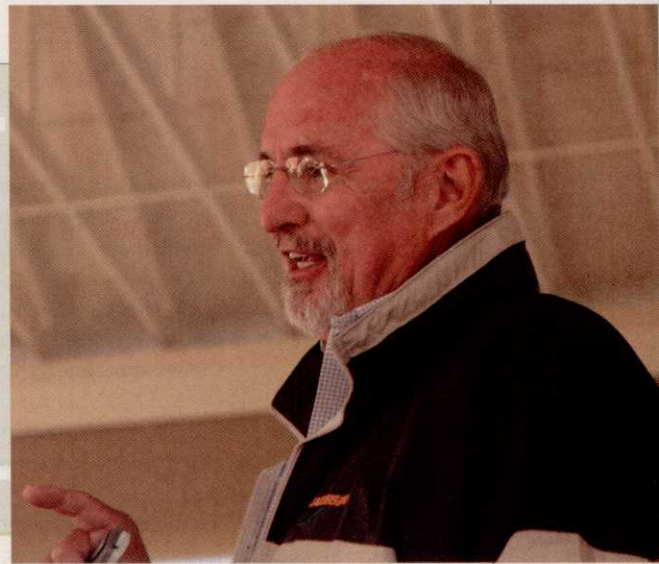
“Grooming is a proactive cultural practice that supports maximum turf health and performance throughout the year when done routinely,” he says. “All stoloniferous and rhizomatous turfs have been demonstrated to benefit from routine grooming regardless of the height of cut.”

#### TAMING KIKUYUGRASS

Several golf course superintendents have had success since they started grooming their turf. Pat Gradoville, CGCS, grows kikuyugrass in the fairways at Palos Verdes Golf Club in California and says the species is a good thatch builder.

“It’s important to distinguish grooming from vertical mowing. Both processes use vertical blades, but from a biological standpoint, this is where the similarities end.”

-MILT ENGELKE, Ph.D.



“If we don’t stay on top of kikuyugrass, it can get out of hand real quickly,” he says. “When I came here, I was afraid to fertilize.”

Gradoville cuts fairways three to four times a week and uses turf groomers every other mowing.

“The groomers eat into the thatch and take out some of the puffiness,” he says. “We’ve actually increased the percentage of kikuyugrass in the fairways by feeding it more and using a growth regulator. The growth regulator reduces clippings and makes the plant more compact.

We have the benefit of adding nutrients without getting a flush of growth.”

However, grooming isn’t a substitute for verticutting for Gradoville. Grooming can be aggressive and will thin turf if the blades are set too deep, or if groomers are used too much. Healthy turf producing thatch will tolerate much more grooming than hungry turf with no thatch.

“We use it more like a hard tickle,” he says. “With this practice, we’ve reduced the need to verticut as frequently. The kikuyugrass seems to thrive with turf grooming, but you need to

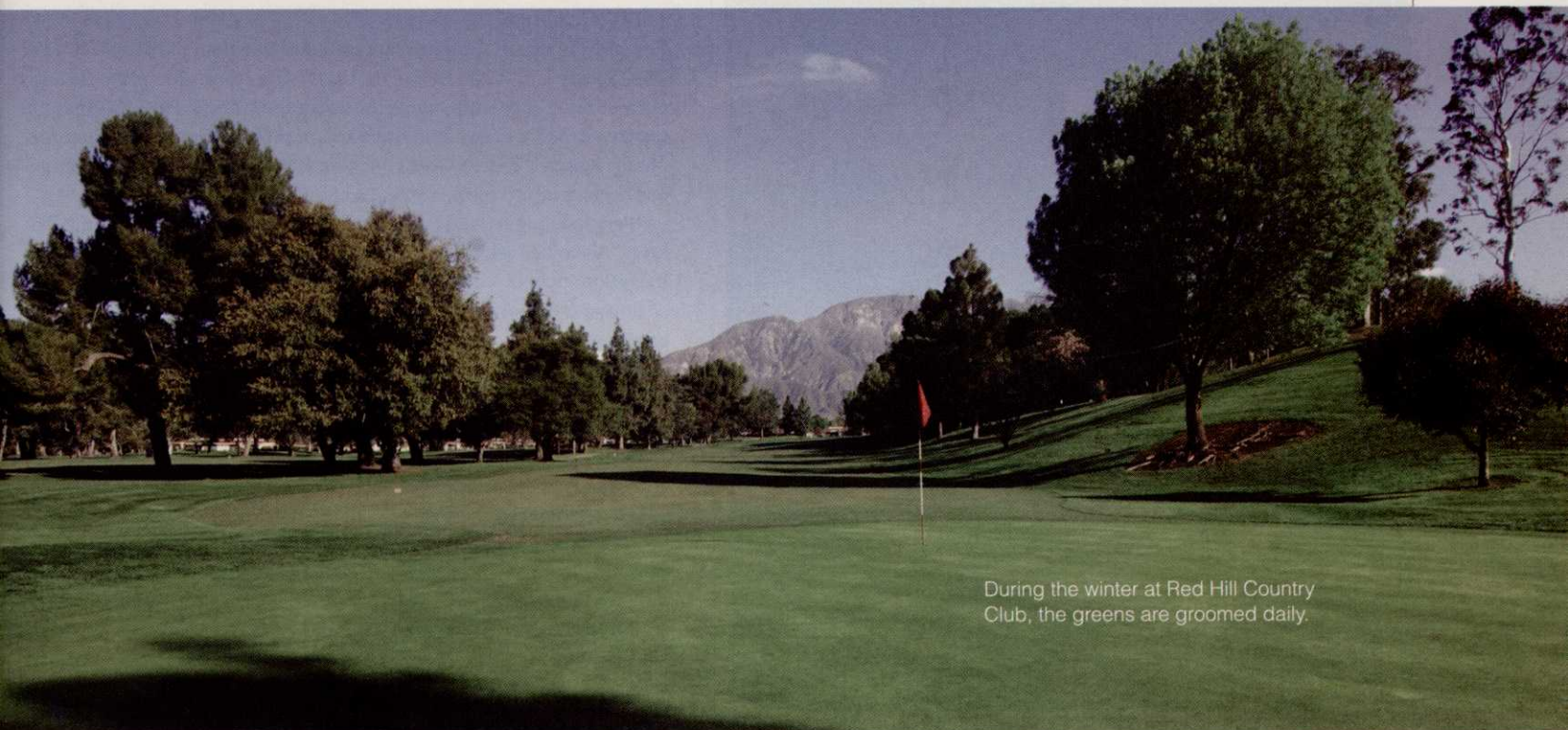
watch you don’t overdo it.”

The *Poa annua* greens at Palos Verdes are groomed twice a week, while the bentgrass tees are groomed every other week.

“The golf course continues to improve, as the members tell me how much better playing conditions are today,” Gradoville says. “I attribute part of that to technology.”

#### FAIRWAY RENOVATION

Red Hill Country Club in Rancho Cucamonga, Calif., has a reputation for being one of the hid-



During the winter at Red Hill Country Club, the greens are groomed daily.

den gems of the Inland Empire. Built in 1921 and measuring 6,611 yards from the championship tees, the course sits on a bed of heavy, clay soil, and has small, push-up greens.

However, in today's golfing environment, players and members expect current standards of course conditioning. So, when superintendent Craig Kimmel arrived in March of 2000, his direction was simple: bring the course up to date. His first challenge was the fairways, which had been overseeded for many years.

"This created a lot of problems in summer with the *Poa annua* and ryegrass," Kimmel says. "They just died out in the heat. In 2002, we renovated two fairways as a test plot with hybrid bermudagrass, and it has stood the test of time. Now we've changed all the fairways to Tifway II, and they perform excellent in the summer. We aerify a couple times a year and sand topdress; we don't overseed. We want a drier, more consistent golf course with better ball roll during the



Superintendent Craig Kimmel and his staff try to stand up the grass for a better quality cut and more consistent surfaces.

summer and winter. When the turf is semidormant, we don't have to water. Then during the summer, we don't have to put as much water on hybrid bermudagrass as we would with a cool-season grass. The quality of the fairways has risen exponentially."

The maintenance staff verticuts a lot from the spring to the beginning of summer to knock down *Poa annua* seed heads and take care of thatch. Then they light topdress for a smooth ball roll.

Kimmel uses turf groomers on his walk mowers for greens and collars and on the club's three fairway mowers.

"During the winter, greens are groomed every day," Kimmel says. "From March through November, fairways are groomed whenever they're cut, five to six days a week.

Turf grooming isn't verticutting. We're trying to stand up the grass for a better quality of cut and more consistent surfaces. Groomers were something I asked for in our last equipment package. From demonstrations, I liked what I saw and am pleased with the results. We're reaping the benefits of turf grooming."

#### A SPECIAL SETTING

Few golfing experiences are more memorable than playing a round at The Quarry Golf Club in San Antonio. The front nine plays through native rolling grasslands, while the back nine is nestled in a 100-year-old quarry pit. More than 1.5 million yards of topsoil were brought in to create the course's 8-inch base. Golf course superintendent Bruce Burger has been involved in the project from nearly the beginning in 1993.

"People living around the quarry's rim used to look into a dump," he says. "Now they see a beautiful golf course. When we first fired up the irrigation, people were on their patios clapping."

Burger cuts putting greens with triplex mowers equipped with turf groomers.

"When we started using groomers, we cut the greens at one-eighth of an inch (0.125) with the triplexes and groomers, and I got rave reviews," he says. "Everyone remarks about their consistency."

With the Tifdwarf bermudagrass, Burger is able to maintain the greens at that height without any undue stress on the turf.

"The groomers help reduce the number of times we need to verticut," he says. "The leaf blades stand straight up, and the bedknife and reel come behind and clip them vertically instead of just rolling over the top. We don't have much thatch buildup because the groomers stand up the leaf blades to give us a better cut." **GCI**

David Wolff is a freelance writer based in Watertown, Wis. He can be reached at [dgwolff@charter.net](mailto:dgwolff@charter.net).

**The Aerating Fountain**  
from Otterbine

AT OTTERBINE, we know that water quality is equally as important as aesthetics. That is why our Aerating Fountains are tested at the University of Minnesota and have been proven to create excellent circulation and oxygen transfer.

Otterbine aeration systems effectively induce oxygen into the water column promoting natural aerobic digestion of excessive waste, run-off and algae that can consume your water features.

Effective circulation is key in reducing algae and the beauty of an Otterbine spray pattern speaks for itself!

**OTTERBINE AERATORS:**

- Virtually Eliminate Algae and Odors
- Are Ideal for Irrigation Ponds
- Stand up to Brackish and Effluent Conditions
- Offer the Strongest Warranty in the Industry

**800-AER8TER**  
**610-965-6018**  
**www.otterbine.com**