

jects. It also builds some non-irrigation pump stations for hotels, high-rise buildings and waste water plants.

The company employs 35 people to assemble the stations. "Our stations are kind of a composite," Dick explains. "We buy our pumps and motors. We build our electronic control panels from various components. We're classified as a UL508 shop. We fabricate the steel components, blast them, paint them, and assemble the unit as a complete device that's skid mounted and can be moved by truck and crane to a pump house location, set on site and started up."

Prior to delivery, each unit is fully flow tested in-house, something Watertronics' competitors can't do in-house, Dick adds.

The Watertronics story is just one example of how Reinders has evolved over the years to constantly meet the needs of the marketplace. "It's kind of like bumper cars," Dick says of the company's ability to change with the times. "If you run into the wall, you bounce off and seek a different direction. Not that recklessly. But, in order to survive in business today, you have to look where there is a niche in which you can fill a need.

"And you need to be very conscious of after-market service," he continues. "You can't satisfy everybody all of the time. But if you focus on the fact that you're not going to make just a one-time sale, you can survive by taking good care of that customer with follow-through service. Then you can retain that customer for repeat service and sales.

"Our turf equipment and irrigation businesses in Wisconsin serve a very close-knit group of people," Dick continues. "If we do a bad job, the word spreads fast. If we do a good job, I

think the word also spreads. We try to respond to our customers' needs and fulfill those needs."

Based on this philosophy, the Reinders story is truly an American business success story. The family-owned corporation has continually changed over the years to meet the needs of the marketplace—and also the needs of the family.

Dick and his brother, Bob, who is president and oversees the turf equipment division, are the fourth generation of Reinders involved with the family corporation. They each have three children, representing the fifth generation, who are now active in the company. And their 90-year-old father, Roland, is still semi-active in the business.

"Most family businesses fall apart at about the third generation," Dick believes. "Part of the secret of keeping a family owned business operating is to give each family member a certain area of responsibility and let them develop it.

"We're not crossing paths. And yet we still have our monthly family meetings, which are like mini board of directors meetings, to discuss how each area is doing and how we can support one another to make the business grow further," he adds.

Golf course superintendents are most familiar with the turf equipment division and irrigation division of Reinders. But the company also manufactures pigeon feed and wild bird feed. And it runs an Elm Grove retail operation, Reinders Nature Store, that sells grass seed and environmentally friendly fertilizers and pesticide controls, along with pet and bird feeding supplies.

Reinders distributes salt for water softeners, food production, and ice

control. "That business was developed, and is very crucial to our operation, because it produces revenue in the winter when our golf course equipment and irrigation businesses are sleeping, so to speak," Dick explains. "We tried to balance out our seasonal businesses."

Reinders also has a consumer power equipment division that sells lawn mowers, lawn tractors, all-terrain vehicles, snow mobiles and watercraft.

"In support of all of this we have two parts and service departments—one for motor-driven equipment and the other for irrigation equipment," Dick adds. "And we have branch locations in Appleton, Madison and Stevens Point in addition to our home office in Elm Grove."

The fifth generation is involved in many ways. Dick's son, Craig, is the golf irrigation manager. Another son, Joel, handles aerator sales and specialty products under the irrigation division. His daughter, Laurie, manages Reinders Nature Store. Dick's son, Rick, is not at Reinders, but he is the international sales manager at Watertronics.

"My second daughter, Shelly, got away from me and works for Wrangler Jeans in marketing and advertising," Dick adds.

Bob's daughter, Mary Reinders Quick, manages the salt/feed division. Another daughter, Ann, manages the Madison branch. And his son, Mark, oversees branch locations and the company's real estate and expansion projects.

The Reinders business hasn't always had this diversified profile. It began as an Elm Grove general store owned by Dick's great grandmother,

(Continued on page 13)

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(Continued from page 11)

Margaret Reitter, way back in 1866. "My grandfather happened to patronize that store and met her daughter, married her, and became part of the business," Dick explains.

"He changed the name to John Reinders and Son in 1886. John had a number of sons and sons-in-law who came into the business. They branched out into feed manufacturing, farm implements, building supplies, a grocery store, a hardware store, and so forth," Dick continues.

Dick's father, Roland, and uncle, George, were involved in the feed manufacturing and farm implement end of the business. They also sold coal for heating purposes, and later, fuel oil.

"After World War II they started to see subdivisions occurring on the western edges of Milwaukee," Dick recalls. "This was in the early 50's when my brother, Bob, was starting to get involved with the business. He could see the hand writing on the wall. Farms were disappearing. But subdivisions were replacing

them, and the people in them would need different supplies—garden supplies, fertilizers, lawn mowing equipment, and so forth.

"So we started the transition from strictly a farm supply store into one that handled what the new suburbanites would need," Dick adds. It's also the time Bob started the turf equipment division of Reinders, and soon after, Dick joined him.

"Where are we going in the future?" Dick asks. "I think we will be looking for some other branch locations that may better serve our area of responsibility for the suppliers that we represent. And we may look for other product lines that serve the turfgrass industry and fit in with the products that we sell now."

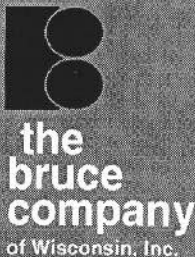
Although he has been involved with the golf industry for all of his adult life, Dick confesses that he has yet to play his first round of golf. "I've had so many opportunities," he says. "But I have some hobbies outside of the turf industry that I've yet to master. And I don't want the frustration of attempting to master golf

before I have my other hobbies fulfilled."

Two of those hobbies point back to Dick's mechanical interests. "I have a 1958 Cessna Skylane that is apart in my hanger/garage at home and that needs to be put back together and restored," he explains. "And I have a collection of automobiles—several Corvettes, many Corvairs and a couple of Datsun Z cars—that need restoration.

"And I have a soccer field that I maintain on my land that is the home field for the Reinders Soccer Club, which is a men's major WSA soccer team," Dick continues. "I also have about 7-1/2 acres of landscaped property on my 120-acre farm near Sullivan in Jefferson County, which includes a 2,000-foot landing strip.

"Once the airplane is flying and the cars have been weeded down to a manageable four or five, and I've freed myself from the day-to-day involvement with the business, then you'll find me out there slicing, hacking and chewing up divots," Dick predicts. ♣



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I'd Rather Be Known As A Conservationist

By Pat Norton

Gentlemen, gentlemen!! Just what in the heck is going on with some of our 'environmentally conscious' brethren in the golf course management world? Is 'the environment' such a popular concept, such a buzz word that we all want and need for it to become the centerpiece of yet another GCSAA sponsored public relations campaign? I for one think that things 'environmentally related' are getting a bit out of hand, as witnessed by GCSAA's newest (and of course...coveted and prestigious) batch of awards...the 'Environmental Steward Awards'!!

Hey, hey!! The environmental bandwagon is moving through town, fellas, so we'd all better scramble quickly to get on...

The news media saturates us with environmental stories...sometimes about those nasty guys who operate the nation's worst hotbeds of pesticidal toxicity...the golf courses!! After a few years of fighting the logical fight against the 'environmental groups', we finally figure it out...it's the environment, stupid!!! So GCSAA decides that joining is smarter than fighting, which is not bad logic.

And I really must commend those who are really into the 'environment', whether it's on a golf course, or in any other form. God knows that there are millions of humans out there who don't give a rip about what happens to this Earth of ours. We need more people to be concerned about the natural world.

But now golf course superintendents want to be recognized as 'environmentalists'? Depending on your definition, possibly we could be considered as such. But don't you think that the 'real environmentalists' from the Sierra Club or the Environmental Decade would chuckle just a little upon realizing that 'greenskeepers' are now handing out "Environmental Steward" awards to each other? To me it's all just a bit of overkill in the quest for positive PR and public image. In this case it's way too transparent...

Still don't get it yet, you slowfoot? Remember that everybody these days is an environmentalist...it's the hot topic, the thing to delve into, it's where the smart money is going...why even WalMart has become stalwartly conscious of our nation's natural resources. Thank God for that!! I'm certainly sleeping better knowing that these folks are so concerned about conserving and preserving the soil, water, land, and forests of this great nation. Maybe that's why they're building smaller parking lots, developing less land, and specifying products that use less paper packaging, less plastic, and generally are stocking their shelves with alot less junk...I wish.

So I guess that I'm just a little bit cynical concerning some aspects of this big push to 'protect the environment' here in Illinois...wealthy golf clubs in Chicagoland make a big show of protecting their natural resources, while the State Department of Natural Resources does way too little to protect the Illinois River and gives industry way too much freedom to operate their businesses with little

regard for the environmental consequences.. until disastrous consequences of such policy occur.

About two weeks ago a hazardous waste recycling plant right here in Grundy County had a huge warehouse fire. They were inspected about six months ago by the state, found to violate quite a few state regulations, and given some time to correct all of their problems. In the meantime, this serious fire broke out. Now they've got a real cleanup problem.

Something tells me that state agencies in Wisconsin would not let this type of sloppy industrial accident happen. The Illinois DNR was only established in June of 1995 and given powers similar to the DNR in other mid-western states at that time.

Before that time it was the State Department of Transportation that had control over the management of the state's waterways. Hence, the Illinois River is in very sad shape, filled with silt and not much more than a bargeway...but it is getting better.

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Environmental Steward Awards? Can anybody take this seriously? We suddenly start passing out environmental awards, totally inbred within our professional association, to those golf courses who certainly have the interest, and as importantly, the maintenance budget necessary in order to devote the staff/time necessary to qualify for such awards!

Be more impressed, gentlemen, with those experienced superintendents who have been ultra concerned with their golf course environments in a quiet, matter of fact sort of way. Their thinking and attitudes toward nature have been shaped over the years to the point that they'd never even think of applying for some trumped up award! They do this 'conservation work' because it's the right thing to do, it's very satisfying, which then means that it becomes fun to do!

It's just the quest for publicity by some, and the awarding of the prizes by others, that makes me gag! Don't misunderstand me...this newfound golf environmental consciousness is great and those who delve into it are to be congratulated wholeheartedly. But why do we pretend to be something that we're not, pass out the awards, and then pretend that it's mainly 'the environment' in which we're interested?

I submit, guys, that we are certainly not 'environmentalists'. That term evokes negative passion within me that brings to mind unreasonable, politically minded environmental radicals who do not listen to reason when it comes to discussions on the benefits/risks of agrichemicals, land management, and wildlife management.

What we do on our golf courses these days is more 'conservation work' than anything else. Webster's defines

'conservation' as "a careful preservation and protection of something" and further defines it as "planned management of a natural resource to prevent exploitation, destruction, or neglect"... sounds like a pretty good definition of our work, eh? A 'conservationist' is defined as 'one who advocates conservation, especially of natural resources'...

So given those definitions, I'd be more than proud to be described as a 'conservationist'. Let the political publicity hounds among us be the 'environmentalists'. The conservationists...solid midwesterners who are actively involved in Ducks Unlimited or Pheasants Forever...are almost all volunteers who donate tons of time, money, and use of land for the benefit of nature. That's what it's supposed to be about...

Maybe GCSAA should take this award a step further and institute a 'Master Golf Course Environmentalist' program. Then we can really let the golf world know just how concerned we are with protecting the entire natural environment!

This 'Environmental Steward Award' in particular makes me laugh. In the first place, I was the 'steward' at the AGR fraternity at UW-Madison...in charge of being environmentally responsible for the kitchen! Next, is the overuse/misuse of the word 'environment'....sort of nauseating after awhile.

Finally though, this award reminds me of the Dr. Pepper theme song with that Pied Piper guy dancing and singing through the streets..."I'm a Pepper, he's a Pepper, she's a Pepper, they're all Peppers, wouldn't you like to be a Pepper too"???

Simply substitute the word 'environmentalist' into the jingle, and I'm sure that you'll get the idea... 🍷

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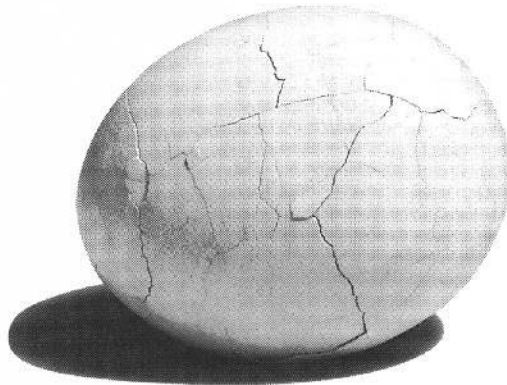
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What Happened To Phase II of GCSAA Cancer Study?

By Monroe S. Miller

The "C" word scares absolutely everyone, me included. Maybe me especially.

Within less than the past year, I have had two skin cancers removed, as did a friend of mine at the club and a colleague I am close to. Catherine Smejkal, whom we all will miss seeing at the Noer Research Facility, passed away very quickly from a rapidly spreading cancer. And this spring our family buried my first cousin who died from a malignant brain tumor.

Many golf course superintendents can count similar experiences with their friends and family and colleagues. It is no wonder I started to think, again, of the GCSAA mortality study that was initiated a number of years ago. The Phase I results were announced by Dr. Burton Kross at the GCSAA conference and show in Dallas in 1994.

Dr. Kross was an excellent choice for the project. He is an University of Iowa professor of preventative medicine and mental health and has experience with Iowa farmers and their health issues.

The mortality study raised questions and heightened concerns. Of the 618 deaths of golf course superintendents Dr. Kross studied (deaths that occurred between 1970 and 1992), 179 were cancer related. According to the study, we are 79% more likely to contract large intestinal cancer and 36% more likely to contract lung cancer than the general public. The study also found above average rates of brain cancer, non-Hodgkin's lymphoma, pancreatic and prostate cancer.

You would have to be totally ignorant not to be concerned. That is why some were surprised that there was a fair amount of ceremony when the results were released in Dallas. It might have been better to have quietly informed the membership of the results to date and quickly started on Phase II. Nearly anyone could have predicted that before we were in the air on the way home from the Dallas conference Paul Harvey was on the air with "the rest of the story" about golf courses, golf and pesticides. It was, in my view, a nightmare that to some extent was GCSAA's own doing.

But that is history. What matters to me and should matter to all golf course superintendents is the status of Phase II of the mortality study. We need to know more about our risk of cancer that is job related.

Phase II was supposed to see development of a no smoking program (redundant in today's anti-smoking climate; you practically cannot eat a meal and smoke in Madison, for example), "an expansion of current education and training programs" (I'm not sure what that means, nor have I heard about them or their status or their state of expansion), and, most importantly, completion of the statistical mortality study to put the University

of Iowa's preliminary data into a more relevant and meaningful context so that we know if, in plain language, we are more likely to get cancer because we are golf course superintendents.

Simply stated, we need to see the status of Dr. Kross' Phase II study to date, and gain a sense of where this second round of cancer questions is heading. Who among us doesn't want to know if our careers are making us more susceptible to an early death because of cancer? These data do not need to be released to the world, complete with banners and bunting and bullfeathers. We need a simple report to tell us how the study results are shaping up, sans any PR.

I might add that I called GCSAA headquarters with this question a number of months ago. The staff person I talked with should have known all about Phase II, but said he was uninvolved. He assured me he would have the right person with the answers contact me. That has never happened.

I am hoping for two things: 1) that the answers are forthcoming and, 2) the results of Dr. Kross' study are heartening.

It also occurred to me that if Bruce Williams' message *A Growing Trust* from the May 1996 issue of GCM is indeed reality, then I can trust someone in GCSAA to tell us what we need to know, what we were told we could expect to know, and what some paid to find out (remember that \$10,000 the WGCSA donated to the mortality study?). Who knows? Some GCSAA members' lives may actually depend on it. ♣

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Seeing Through the Thatch

By Amy J. Sausen
Outreach Specialist
Department of Horticulture
University of Wisconsin-Madison

The USGA Green Section defines thatch as an accumulation of plant material at the soil surface, which, if left unchecked could develop into an undesirable mat. The American Society of Agronomy says differently. Thatch is a tightly intermingled layer of undecomposed living and dead organic material between the soil surface and the green portion of the plant. Some experts even go so far as to say that thatch consists of only dead material, not living. Still others describe thatch as the result of stem, crown, and root tissues high in cell wall lignin accumulating at the soil surface. Very confusing, right?

I began a thatch control study last fall, solely for the purpose of clearing up some of the murky waters surrounding thatch control. Like everything in life, I always thought a little was good, but a lot could be detrimental. The first reference to possible trouble with excessive thatch accumulation came in 1925, in the USGA Green Section Record, by O. B. Fitts, "If creeping bentgrass is allowed to grow through the season without top-dressing, a loose, fluffy, or spongy

turf will develop...a condition about which many complaints have been received."

Suddenly, I began to feel as though I were reinventing the proverbial wheel. Monthly topdressing applications were one of the treatments in my trial. I reasoned that over time, science and technology have come a long way, and we know much more about the environment that thatch exists in today, right? Wrong.

We know that a certain amount is desirable. Generally, 1/4" on a putting surface and 1/2" in a lawn or rough area is considered desirable. Thatch, if maintained at a desirable thickness, has many positive attributes. It increases wear tolerance, creates a built-in cushion, and adds resiliency to golf course greens, which makes the ball "bite".

So, what's the problem? If the thatch layer becomes excessive, it can change the environment that the grass lives in. It can predispose the turf to other stresses, including disease and insect incidences. Heavy thatch layers can present a myriad of problems to the turf manager.

Thatch is a completely different growing medium than soil. It is highly porous, comprised mainly of large pores. Consequently, its water retention capacity is low, compared to a silt loam soil. By volume, it has a much lower cation exchange capacity than a typical silt loam soil. (Turgeon, 1979) Because of these two features, thatch has less ability to retain nitrogen after an urea application. Nitrogen can be lost to leaching in wet soils, and volatilized (converted to NH₃) in dry soils.

The phenomenon of localized dry spots has also been associated with heavy thatch accumulation. (Carrow, 1979) When thatch becomes completely dry, it is very difficult to rewet.

On a putting green, excess thatch is oftentimes blamed for poor putting surfaces. It can produce an uneven and slow putting surface.

Kentucky bluegrass has been shown to be more wilt prone if heavy thatch layers are present. (Turgeon, 1979)

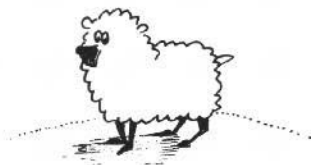
Among the most frightening problems thatch can present, is an increase in disease potential. Many diseases seem to thrive on thatchy turf. At the 1973 Wisconsin Golf Turf Symposium in Milwaukee, Dr. Malcolm Shurtleff, University of Illinois, said, "By holding moisture like a sponge, an excessive thatch layer provides an ideal microenvironment for the development of most disease-causing fungi." Fairy ring, *Rhizoctonia* brown patch, dollar spot, *Pythium*, *Helminthosporium* leaf spot and melting out, snowmolds, red thread, fusarium blight and leaf spots, have all shown a correlation with heavy thatch accumulations. (Turf Management, 1992)

Many turf specialists have associated *Pythium* blight with thatch accumulation. Research has indicated that *Pythium* populations in thatch were ten times greater than that of soil,

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illustrating a strong potential for *Pythium* blight in thatchy turf. (Hall, Larson, and Schmitthenner, 1978)

Helminthosporium has been shown to produce large numbers of spores while growing on thatch. (Healy, 1968) There has also been a correlation found between thatch accumulation and *Helminthosporium* incidences.

Fusarium blight is often associated with thatch accumulation. The causal organism is capable of living off organic matter such as thatch. (Smiley and Craven, 1978) In addition, the disease has been shown to be more severe on turfgrasses under drought stress, a condition that is common with heavy thatch layers.

Like diseases, many insects are also influenced by accumulations of thatch. Typically, it is common to see strong correlations between surface inhabiting insects and thatch accumulations. Subsurface inhabitants, however, are usually unaffected by thatch accumulations. Again, as with many diseases, healthy turf is more likely to withstand an insect attack.

Surface inhabiting insects, including sod webworm, chinch bugs, adult billbugs, and armyworms are often more common in thatchy turf. The thatch layer provides an ideal overwintering environment, protecting the insects from the cold temperatures. Sod webworms may actually require thatch, as they are seldom a problem in thatch free turf. (Joyner, 1979)

While insects that live in the soil below the thatch don't seem to be influenced by thatch accumulations, the thatch may play a role in their survival. Thatch is notorious for tying up pesticides and preventing them from penetrating to the soil, making control difficult. (Turf Management, 1992)

So, a little thatch is good, and a lot of thatch is potential trouble. Just like I thought. But where does thatch come from, and why is it only a problem in some areas, and not others?

Thatch is created when organic matter is deposited faster than it can be decomposed. The environment, species of grass, and management practices all influence the rate of thatch development, in addition to the rate of decomposition

Kentucky bluegrass and creeping bentgrass are both prone to develop thatch, especially the improved varieties. By nature, these are spreading grasses, which produce rhizomes and stolons. Rhizomes and stolons

require more energy to decompose because of high lignin content. Therefore, these grasses will have a tendency to accumulate more thatch than bunch type grasses.

Obviously, creating an environment that is suitable to the microfauna that consume thatch helps to prevent accumulations. Turf growing in wet, cold, acidic, very sandy, or heavy clay soils all tend to develop thatch. (Butler, 1979) The organisms that decompose thatch are inhibited by these adverse conditions.

Ideally, the pH of the thatch layer should be between 6.0 and 7.0. Thatch is naturally slightly acidic, which is not conducive to the microfauna that consumes thatch. Even O. J. Noer often advised an application of lime to reduce thatch accumulation on ailing greens. (Benneyfield, 1987)

High rates of pesticide applications have been shown to cause heavy thatch accumulation, by limiting the micro- and macrofauna populations that consume thatch. A study conducted in Kentucky in the late 80's, revealed that earthworm populations decreased by 60-99% after a single application of the fungicide benomyl or the insecticides ethoprop, carbaryl, or bendiocarb. Significant effects of these pesticide applications lasted for 20 weeks. (Potter, Buxton, Redmond, Patterson, and Powell, 1990)

Whether or not fertility levels cause thatch remains to be seen. For every article that says excessive nitrogen causes thatch, another says there was no significant change in thatch accumulation, even at 20 pounds of nitrogen/1000 square feet.

While nitrogen will push excessive top growth, we know that leaf tissues are easily decomposed by microorganisms, which also require some amount of nitrogen as a food source. Generally, a 25:1 ratio of

carbon to nitrogen is considered ideal. (Beard, 1973)

Management strategies that encourage root growth to rise to the surface correlate well to thatch accumulation. Whether that means growing turf on a heavy clay soil with lots of compaction or growing turf on sandy soils with improper irrigation techniques, roots will tend to rise to the surface of the soil.

The more we know about what causes thatch, the greater our ability to prevent thatch from building up in the first place. Irrigation schedules, mowing practices, and topdressing schedules all need to compliment each other in order to prevent thatch accumulations from becoming excessive.

Watering deep and infrequently encourages roots to grow deeper into the soil, rather than rise to the surface. This also helps to keep the disease potential in check, as overwatered turf areas are more prone to disease infestations.

Cultivation techniques, such as topdressing, core aeration, vertical mowing, and spiking, have been practiced for decades, all with some success. Each of these methods of control incorporates some soil into the thatch layer, thereby encouraging microorganisms. However, each of these practices needs to be done on a regular basis in order to get acceptable results.

So, are professional turf managers supposed to run out to the nearest bait shop to purchase night crawlers? Not quite. This is one of the reasons I began the thatch reduction study on a home lawn and a golf course fairway. There is an abundance of thatch reducing products available to the turf manager.

While some products claim to feed the microbial population, others claim

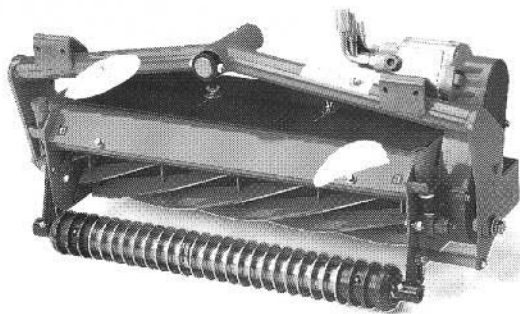
(Continued on page 21)

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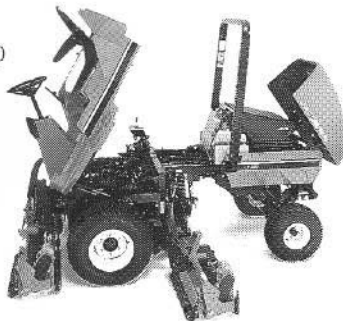
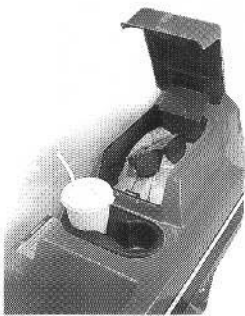
7" diameter, 10-blade reels deliver the high torque to handle all kinds of grasses and conditions beautifully. Plus, 26" balanced reels and our unique rear roller down pressure system produce tournament quality results at production mowing speeds, hugging undulations other machines would scalp.

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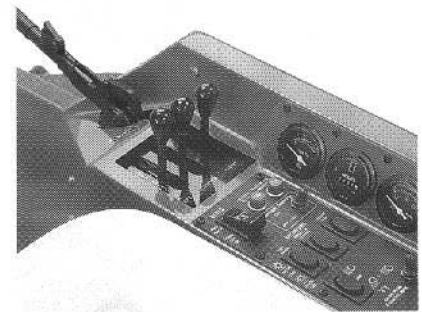
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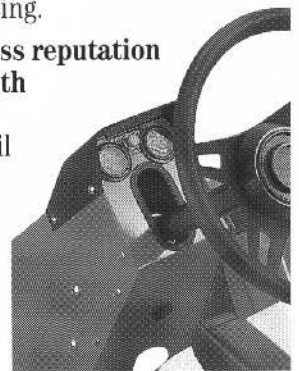


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