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CIRCLE #101

Turf professionals choosing safer four-wheel work vehicle

About the independent study director



Dr. Paul Riedesel

Dr. Paul Riedesel has directed research studies for a variety of Fortune 500 companies.

He has more than 14 years of marketing research experience and knows the turf care industry well. As an independent consultant, he directed the Torosponsored survey on work vehicle roll-overs in June 1993.

Riedesel received a doctorate in 1974 from the University of Nebraska. He has published numerous articles in scholarly, business and trade journals, and has taught graduate courses in research methods. He is president of Action Marketing Research, a Minneapolis-based research supplier firm.

Advanced Toro Workman[™] eliminates need for three-wheel configuration

URNING PERFORMANCE AND SAFETY. Turf care professionals have rarely used both words to describe the benefits of the industry's heavy-duty work vehicles, and for good reason. Until now, the vehicles have primarily had a three-wheel design that, although has offered needed maneuverability, is known to be a leading factor in work vehicle roll-overs.

The Toro Company wants you to know that three-wheel work vehicles used in turf applications can be dangerous and are not necessary today.

An alternative now exists.

To prove its point, Toro is publishing the results of objective, new research that confirms the danger of three-wheel work vehicles. After reading the research results that follow, Toro thinks you'll agree:

• The four-wheel work vehicle configuration is safer than the threewheel vehicle design.

 The need for three-wheel work vehicles is eliminated entirely with Toro's Workman[™] vehicle. It combines four-wheel stability with threewheel vehicle maneuverability.

TORO

WORKMAN

 In the remote chance that an operator mistake causes a roll-over, the Workman provides a standard roll-over protection system (ROPS) and driver's side hip and shoulder restraint bars to protect the operator.

Majority of work vehicle roll-overs involve three-wheel vehicles

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The Toro Company sponsored an independent survey to measure the nature of work vehicle roll-overs.* A telephone survey was conducted with more than 250 randomly selected golf course superintendents who geographically represented both nine and 18+ hole courses throughout the United States. The findings of the study are accurate within plus or minus 5 percent.

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ONE OUT OF EIGHT HAS EXPERIENCED ROLL-OVER IN LAST FIVE YEARS.

Superintendents were asked a series of questions regarding their own experiences with work vehicle roll-overs during the past five years.

• About 12 percent of the respondents recalled one or more roll-overs involving work vehicles. Altogether they cited 43 different incidents.

• Of approximately 12,800 U.S. regulation golf courses, it is projected that 1,500 courses have had a work vehicle roll-over in the last five years.

THREE-WHEEL WORK VEHICLES ROLL-OVER MORE OFTEN.

The clear majority of roll-overs mentioned involved three-wheel work vehicles.

 Nearly 80 percent involved three-wheel work vehicles.

• Almost six out of 10 of the incidents involved a leading supplier's three-wheel work vehicle.

"It is very clear that a three-wheel work vehicle is inherently less stable than a similar four-wheel work vehicle," said Jim Seifert, senior attorney for The Toro Company.

To make an already dangerous situation worse, Seifert added, "many three-wheel work vehicle operators don't know of the vehicle's instability or the numerous opportunities to encounter unstable turf care conditions-holes, ditches, sand traps and sharp turns. Furthermore, work vehicles respond differently each time an attachment or accessory is added or a load is hauled."

ONE OUT OF FIVE EMPLOYEES WHO HAVE HAD A ROLL-OVER MISS WORK.

The reasons to decrease the likelihood of such work vehicle accidents are obvious. Increasing worker safety is foremost. Second, is preventing costly downtime from employee absenteeism, having to replace a worker and/or equipment, or simply not getting the job done.

• In 28 percent of the roll-overs cited during the survey, a superintendent reported that someone was treated by a doctor as a consequence of that roll-over. (The severity of the accident wasn't revealed.)

• Nearly one out of five workers missed work as a consequence of the accident.

These statistics confirm what the industry has known all along, according to Bruce Lunning, a senior loss control specialist for the St. Paul Fire and Marine Insurance Company located in St. Paul, Minn. "Work vehicle roll-overs may not happen every day on a golf course, but when they do, they are the most serious accident that can happen with these vehicles," Lunning said.

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"From an accident prevention standpoint, operators must be aware of the terrain they are operating on and the limitations of their work vehicle. They also need to know that these factors will change with every attachment, accessory or load that's added."

FOUR-WHEEL IDENTIFIED AS MORE SAFE THAN THREE-WHEEL VEHICLE.

• Almost seven out of 10 superintendents believe that four-wheel vehicles are more safe than three-wheel work vehicles.

These results validate the industry's need for a work vehicle that combines the best feature of a three-wheel vehicle (maneuverability) in a highly capable four-wheel design.

Toro offers operator safety education materials

The Toro Company offers many operator safety education materials produced in both English and Spanish, including the following:

• Workman 3000 Series Operator Training Videotape. This 25-minute videotape teaches operators how to use the Workman in a responsible and safe manner. A free copy comes with each Workman purchase.

• Turf Maintenance Equipment Safety Program. This program was designed specifically for golf course employees by Toro and the St. Paul Fire and Marine Insurance Company. It addresses 28 different safety areas related to commercial cutting equipment and incorporates a videotape, audio tape, written manual and follow-up tests.

Copies of the turf maintenance equipment safety program and the Workman videotape can be purchased for a small fee from your local Toro distributor by calling 800/803-TORO (8676) and touching extension number 152. For the Workman videotape, request Form 93-110-SV. For the equipment safety program, request Form 92-794-SV.



Supervisors can choose from many operator safety education materials offered by Toro.

* Although Toro was the study sponsor, the research was designed and executed by an independent research company who also compiled the results. To achieve objectivity, neither the interviewing personnel nor the respondents were told who the study sponsor was.

Conclusion: Toro Workman replacing three-wheel work vehicles

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The move from three-to safer four-wheel work vehicles is no surprise to The Toro Company. It was a logical evolution-not just a passing trend-that the company saw coming. That's why it made the decision to meet both needs-safety and turning performance-in its Workman vehicle.

In fact, in the survey regarding roll-overs, Toro found that a significant number of golf courses-projected to be more than 3,000-may have changed their mix of vehicle types within the past five years, at least in part from concerns about three-wheel work vehicle safety.

And with good reason, said Jim Seifert.

"Superintendents fear the remote risk of a lawsuit if the employer has a history of work vehicle roll-overs and is found to exhibit gross negligence. In some instances, employers can be fined by OSHA, as well," Seifert said. "Depending on the nature of a roll-over incident, there is also the possibility of job loss for the superintendent, and a damaged reputation for the golf course. The result can be increased premiums for general liability insurance and workers' compensation," he added.

TORO WORKMAN OFFERS A CHOICE.

Work vehicle safety is a concern that doesn't have to be a distraction anymore. Now there is a work vehicle that meets those safety and performance needs. It's Toro's heavy-duty Workman vehicle. It offers a high-performance,

high-capacity design with features that mean greater safety and decreased liability risk:

• Four-Wheel Configuration-fourwheel design means greater stability (especially with different attachments and loads) than a three-wheel work vehicle.

• Operator Forward Design–large payloads are evenly distributed with enhanced balance and flotation.

• Standard Roll-Over Protection System (ROPS) – all Workman vehicles come equipped with an unobtrusive ROPS, as well as standard driver's side hip and shoulder restraint bars for operator protection in the event of a roll-over.

• Supervisors' Third High Lockout Key– supervisors can limit the vehicle's maximum speed for a safer environment and to reduce operator misuse.

The Toro Company knows that as a turf care professional, you want to get the big jobs done fast but right by protecting the health of your employees. Toro believes a four-wheel work vehicle is the best choice for accomplishing that important mission. The research proves you agree.

Choose the Workman.

The Toro Company Commercial Marketing Services Dept. 8111 Lyndale Ave. S. Minneapolis, MN 55420-1196



IN NEW JERSEY'S "BROWN PATCH ALLEY... I'VE HAD GREAT SUCCESS WITH DACONIL 2787"."



"This part of New Jersey might be called 'Brown Patch Alley," exclaims Tim McAvoy, certified golf course superintendent at Fox Hollow Golf Club in Somerville, NJ. "The terrain, the soil, and the grasses we grow seem to make us more susceptible." Fortunately, Tim has found that Daconil 2787® Flowable Fungicide from ISK Biosciences Corporation "has a great ability to stop Brown patch every time."

Tim McAvoy, Superintendent, Fox Hollow Golf Club Somerville, New Jersey

Stops Dollar spot, too!

Fox Hollow's greens are bentgrass, Tim says, "and unfortunately, *Poa annua*." Recently renovated tees are 100% bentgrass, while the fairway grass is a combination of fescue, rye and *Poa*. That makes the fairways more susceptible, he believes, to Brown patch and Dollar spot.

"The fairways are where I use Daconil 2787 most," he says. "Starting in late June, I pretty much follow a 10- to 14-day preventive schedule for both diseases.

"We try to make good use of all the products and cultural practices available to us," Tim adds. "We use a slow-release urea-type fertilizer in the spring and then little or no nitrogen until September. We watch the water so we're not exceptionally wet, and we dethatch and do some other things to keep the microclimate as cool as possible when the turf is under the most stress."

Tank mixing saves time.

Besides great Brown patch and Dollar spot control, superintendents get still another important benefit from Daconil 2787: "The flowable formulation is compatible with so many other products," says Tim, "I can tank-mix and knock out two or three diseases. With so much acreage, tank mixing really helps me stay within my personnel budget."

And with Daconil 2787 as the cornerstone of Tim's disease-control program, he doesn't have to worry about disease resistance, either: "As far as Daconil 2787 is concerned, I don't think there's ever been a documented case of resistance. I've always had great success with Daconil 2787."

Have you got a Daconil 2787 success story? Tell us about it. If we use your story in an ad, we'll donate \$100 to your favorite charity. Write Jackie Tengler, ISK Biosciences Success Stories, 5885 Landerbrook Dr., Suite 215, Cleveland, OH 44124.

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Daconil 2787 WD





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OPERATOR LOCATION PROVIDES A SMOOTHER, MORE STABLE RIDE.

CONTOURED TWO-PIECE, HIGH-BACK CUSHIONED SEATS WITH HIP RESTRAINTS.

OPTIONAL DIAMOND PLATE STEEL CARGO BOX WITH HEAVY GAUGE, REMOVABLE STEEL SIDE PANELS; HYDRAULIC LIFT.

RAULIC LIFT.

BIGGEST PAYLOAD IN THE INDUSTRY: 2,200 LBS (2,800 LBS TOTAL CAPACITY).

TAILGATE HINGED TOP & BOTTOM, WITH AUTO-RELEASE FOR DUMPING.

FULL REAR FENDERS HELP PROTECT AGAINST DIRT & DEBRIS BUILD-UP.

BRAKE / TAILLIGHTS.

REMOTE HYDRAULIC CONTROL

FIFTH-WHEEL ATTACHMENT CAPABILITY.

OVERSIZED, 4-PLY ULTRA-TRAC FLOTATION TIRES, 24x13.50-12, MINIMIZE COMPACTION.

RUGGED STEEL FRAME.

TRUCK-TYPE DIFFERENTIAL AND REAR AXLE WITH HEAVY-DUTY TAPERED WHEEL BEARINGS.

> BEEFY, MULTIPLE-LEAF SPRING SUSPENSION AND HEAVY-DUTY SHOCK ABSORBERS.

> > BIG 8.6" SELF-ADJUSTING HYDRAULIC, INTERNAL EXPANDING, DRUM-TYPE REAR BRAKES.

LIVE HYDRAULIC PTO FOR QUICK ATTACHMENT CHANGE-OUT – NO TOOLS NECESSARY.

HEAVY-DUTY 7.25" COMMERCIAL CLUTCH.









The all-new Jacobsen SV Series – loaded with everything, ready for anything. This is the one customers like you have been asking for. A vehicle built from the ground up for toughness, and designed from the operator out for superior all-around productivity.

4-SPEED TRANSMISSION WITH HIGH/LOW RANGE SELECTOR FOR 8 FORWARD SPEEDS FROM 1.7-19.5 MPH.



SHIFT LEVER DIRECT TO TRANSMISSION, NO LINKAGE TO WEAR OUT.

NO LINKAGE LOGICAL AUTOMOTIVE-STYLE ARRANGEMENT OF CONTROLS. POWER STEERING. ENGINE SPEED CONTROL FOR SMOOTHER, MORE EFFICIENT ATTACHMENT PRODUCT APPLICATION.

> FULL INSTRUMENTATION – DISPLAY PANEL TILTED TOWARD OPERATOR FOR EASY VIEWING.

SLEEK STYLING OFFERS EXCELLENT VISIBILITY.

FORWARD-MOUNT, HEAVY-DUTY DONALDSON CENTRIFUGAL PRE-CLEANER / AIR CLEANER FOR LONGER ENGINE LIFE.

HALOGEN HEADLIGHTS.

COLOR IMPREGNATED INTO THE DURABLE, THICK FIBERGLASS HOOD TO RESIST FADING.

WRAP-AROUND FRONT BUMPER PROTECTS BODY FROM WEAR AND TEAR.

LARGE 20x10.00-10, 4-PLY TURF RIB FRONT TIRES.

4-WHEEL STABILITY WITH 3-WHEEL MANEUVERABILITY.

UP-FRONT ENGINE MOUNTING DISTRIBUTES WEIGHT FOR EXCELLENT TRACTION AND MINIMAL FOOTPRINT, EASY MAINTENANCE AND CLEAN ENVIRONMENT.

CAST IRON, WISH-BONE, INDEPENDENT FRONT SUSPENSION TO HANDLE THE ROUGHEST TERRAIN.

BUILT-IN, SEALED STORAGE COMPART-MENTS KEEP HAND TOOLS ORGANIZED, ACCESSIBLE AND SAFELY STOWED.

LARGE, HEAVY-DUTY HYDRAULIC FRONT DISC BRAKES.

SV-3422: FEATURES A LIQUID-COOLED, 4-CYLINDER FORD GAS ENGINE – MFR. RATED AT 44 HP @ 4000 RPM GOVERNED TO 34 HP @ 3200 RPM WITH A FULL 60 FT LBS OF TORQUE.

SV-2322: FEATURES A DEPENDABLE LIQUID-COOLED, KUBOTA DIESEL ENGINE – MFR. RATED AT 26 HP @ 3600 RPM GOVERNED TO 23 HP @ 3200 RPM WITH A FULL 42.5 FT LBS OF TORQUE.

With so many features standard, the Jacobsen SV is more than a new utility truck. It's the first true *service vehicle system*. A system that accommodates most leading attachment makes and models in addition to our own high-capacity, all-hydraulic line of attachments. The Jacobsen SV Series. A bold new look. A bold new statement of what utility equipment value is all about.

For more information, or to arrange a demonstration of an SV Series vehicle, contact your Jacobsen dealer today.

CIRCLE #122

THE PROFESSIONAL'S CHOICE ON TURF.



On November 11-12, the Country's Most Savvy Superintendents, Managers, Owners, Operators, and Developers of Public-Access Golf Facilities Will Meet In Orlando

ow there is a national trade show and conferencetargeted to the fastest growing part of the golf course industry. It's called Golf Course Expo, and when you attend, you'll find the show dedicated 100% to public-access golf—daily-fee, semi-private, resort, and municipal courses. And Golf Course Expo is designed just for you!

STRICTLY PUBLIC-ACCESS. NO NEED TO TRANSLATE PRIVATE GOURSE SOLUTIONS TO YOUR PUBLIC OPERATION

Save money and months of investigation by pinpointing the vendors who can help you on the trade show floor. Tour the show floor and talk shop with the leading companies for all your needs—equipment, chemicals, seed, builders, accessories, sod, golf cars, consultants, management software, fertilizers, architects, marketing firms...the list goes on and on.

Bring the Whole Team and Multiply the Benefits For Your Course

Golf Course Expo is a must for superintendents, managers, owners, operators, general managers, golf administrators, directors of parks and recreation, builders, architects, and developers. This is a great chance for all of the individuals who make buying decisions at your public-access course to find key products and services that will help you operate your facility more effectively and efficiently.



BACKED BY THE KNOW-HOW OF Golf Course News

With monthly coverage of the golf course business, we've built a knowledge base of critical issues that are important to you. And we have invited participation by industry vendors who recognize the needs of public-access golf courses. Our demonstrated commitment to the industry means we're dedicated to your success.

AND THE EXPO IS FREE!

Take a look at what you get when you register in advance with your complimentary Expo VIP Pass:

- FREE entrance to the show floor featuring products and services from leading industry vendors
- FREE information on new products introductions
- FREE attendance at the daily Expo keynote sessions
- FREE entrance to Expo special events—like the Shop Talks—vendorsponsored technical and demonstration sessions right on the show floor

MIX AND MATCH CONFERENCE TOPICS AND SESSIONS TO MEET YOUR NEEDS

You may want to register for the 2-day multi-tracked conference that runs throughout the Expo. Your \$295 conference registration allows you to customize the three concurrent tracks on course maintenance, management and marketing, and course development led by industry experts and successful practitioners. You can design your own personal program from topics including:

- Trends in public-access golf—keep up with changes in the industry
- Research—maintaining high-traffic courses for less
 - Financing construction and renovations
 - Improving the profitability of your course—give yourself an edge
 - Environmental issues-answer your most pressing questions
- Staffing and management strategies
- Saving money on maintenance
- Marketing, advertising, and promotion ideas that REALLY work!

Orlando—America's Favorite Venue

Golf Course Expo will be held at the Orange County Convention Center, a worldclass convention facility. The state-of-the-art complex offers easy access, ample parking, and fully-equipped conference facilities. It's an economical and easily accessible location and one of America's favorite destinations.

They'll return home on November 13th armed with new ways to make their operation more profitable—increase revenues, cut maintenance costs, do more with less, and deliver solutions.

NN GENTER	COLF	Be Among T	'hem (and You'll Be Savvy Too)
	UULI	I've marked my calendar!	Name
994	COURSE	Send me my Advanced Registration Package including	Title
004	e la	VIP Admission to the Show	Organization
GE FOR OWNERS,	Lean	Floor I'm also interested in	Address
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IES		My company would like to	Phone Fax
msored with:	ORANGE COUNTY CONVENTION CENTER Orlando, Florida November 11-12, 1994	purchase exhibit space—please send me more details	Golf Course Expo is for the trade only, you must be 18 to be admitted

Advanced Applicator is a Cost-Effective Solution for Spot Treatment.

The Pro-Ap[™] is the only hose-end, *liquid* siphoning applicator specifically designed for golf course use. The refillable Pro-Ap container holds one quart of Hydro-Wet RTA, the "Ready-To-Apply" wetting agent formula.

Hydro-Wet RTA alters water's behavior while interacting with water repellent surfaces found in the soil. The superior ingredients in Hydro-Wet RTA are attracted to organic soil coatings known to produce hydrophobic conditions. The result is increased water infiltration, absorption, and reduced severity of localized dry spot.

The Pro-Ap makes accuracy easy. Its adjustable metering dial lets the applicator choose nine additive settings or syringe only. And there's no need to water-in because the Pro-Ap's needle valve meters just the right amount of Hydro-Wet into the water flow.

For more information on the Pro-Ap application system, circle the number below, or call Kalo, Inc., toll-free: 1-800-255-5196.

CIRCLE #143

Convenient, cost-effective Pro-Ap delivers consistent, measured quantities of Hydro-Wet RTA—treats 1,000 sq. ft. in less than one minute.

Simple Test Identifies Hydrophobic Soils.

It is nearly impossible to visually identify hydrophobic soils, but there are several simple tests for determining their presence. The following was included in a 1989 article by Keith Karnok and Kevin Tucker of the University of Georgia.

"This test . . . simply involves the placement of small drops of water along the length of intact soil cores at 1/2 inch intervals. The length of time (seconds required for the droplet to penetrate into the core) is recorded. Penetration times greater than 10 to 15 seconds usually indicate a hydrophobic condition." (The average water droplet

penetration times from healthy areas is usually less than 3 seconds.) *Golf Course Management*, August 1989.

CIRCLE #144



Hydro-Wet RTA is the proven turf wetting agent formulated for application with the Pro-Ap hose-end applicator.

Getting the Drop on Localized Dry Spot.

In mid-summer, golf courses turn into battle grounds as superintendents fight to maintain those lush fairways and greens. The battle heats up even more when you have to deal with increased traffic, changing attitudes toward the use of chemicals and restrictions on water use.

One of the scars of this battle is localized dry spot (LDS). What is most perplexing is that LDS symptoms may occur even after normal irrigation.¹

LDS is most prevalent on greens built mainly of sand and established to bentgrass. It's caused by fungi which leave a non-organic coating on sand particles. Once soil moisture levels begin to decrease, water runs off the turf, leaving the soil dry and powdery. This hydrophobic condition makes rewetting difficult. If left untreated, LDS can result in turfgrass death.²

Short and long term management practices to minimize the severity of localize dry spots include: syringing, coring and the use of wetting agents.² Wetting agents can reduce LDS by improving the ability of water to bond with these sand and soil particles. They can also increase the wettability of thatch.³ Preventive applications give the best results, but curative applications can also be effective.

¹Karnok, Keith and Tucker, Kevin (University of Georgia), "The Cause And Control Of Localized Dry Spots On Bentgrass Greens," *Golf Course Management*, August 1989.
²Danneberger, Karl, PhD (Ohio State University—Columbus), "Those summertime blues: Localized dry spots," *Grounds Maintenance*, May 1987

Scarrow, Robert, PhD (University of Georgia), "Understanding Wetting Agents," Golf Course Management, June 1989.

CIRCLE #145



Call Kalo now at 1-800-255-5196 to find out how you can qualify for a free Pro-Ap* applicator with the purchase of Hydro-Wet RTA.



"Applying Embark after trimming around the edges of our bunkers cut our labor in half. Using a ChemLawn spray gun, we made three applications last year, putting the PGR down in two to ten foot bands, depending on the slope. Our chemical costs were about \$35.00 per acre, including Ferromec[®] AC Liquid Iron, and we estimate that we saved \$340.00 in labor each time."

> Tim Taynor, CGCS Sugar Valley Country Club Bellbrook, Ohio

Get the Embark® LITE® FINE TURE REGULATOR Edge!

trimming labor by 50%."

"We reduced our

Manicured turf requires a great deal of tedious trimming and edging. Did you know that up to two-thirds of this timeconsuming and costly labor can be avoided? Simply make a banded application of Embark Lite following each string trimming. Trimmed edges will generally hold for six weeks on most species.

Embark Lite can be applied with a handgun or backpack

sprayer. And now, while supplies last, we'll ship you a \$95.00 SP-1 Back-Pack Sprayer for only \$35.00 when you buy two gallons of Embark Lite.

Simply send your proof of purchase and a check for \$35.00 plus \$5.00 for shipping and handling to PBI/Gordon Corporation prior to August 30, 1994. Delivered via UPS. Limit one per customer.

Always read and follow label instructions.



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Apply Embark Lite where you string-trim most (but want to less).



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