desert Southwest. Both contribute to poor turf quality on recreational and sports turf areas. Subirrigation systems apply water laterally to the rootzone from perforated tiles or other emitters buried either close to the surface or just below the normal root penetration from beneath the surface (subsurface drip irrigation or subground irrigation). These systems may save substantial quantities of irrigation water and could provide uniform distribution compared to standard sprinkler systems. Although the benefits of subsurface irrigation have been extensively studied in agriculture, this irrigation method has received very little acceptance or attention in the field of turf irrigation. Research shows that between 50% and 90% less water was needed to irrigate subground irrigated turf plots compared to sprinkler irrigated areas. In addition to water savings, other advantages of subirrigation systems include the uninterrupted use of the turf area during irrigation, energy savings due to a lower operating water pressure, and the absence of sprinkler heads or other parts in the turf canopy that can cause injuries to athletes. Despite the data demonstrating potential benefits of subirrigation systems, it still has a long way to go to achieve market acceptance. One argument against the use of subirrigation is that spacing and depth of emitters is extremely difficult to determine, especially in sloping areas. Other reasons for the limited success of subsurface irrigation are the relatively high cost of installation, the difficulty in monitoring underground systems, and the lack of urgency for water conservation.

Outside the Lines - Plants for northern climates
Anne Streich, University of Nebraska - Lincoln
What you'll hear: This workshop will discuss proper methods to select plant material for desired aesthetic and functional uses. The impact of plant characteristics (size, color, form, texture) and environmental and site conditions (sun, shade, wind exposure, soil type, drainage, topography) on plant selection will be discussed. Examples of plants that can be used under different conditions will be given.

Outside the Lines - Plants for southern climates
Dr. Michael Arnold, Texas A & M University
What you'll hear: This workshop will focus on practices that will affect the establishment and maintenance of aesthetically pleasing landscapes outside the lines of the sports turf areas. Key considerations in selecting low maintenance adapted plants for minimum input landscapes will be emphasized. Other topics will include considerations of interactions between turf maintenance practices and their impact on surrounding landscape plantings. Effective pruning, watering, and fertilization practices for newly established and existing landscapes will be discussed. Landscape design and management practices that may enhance the quality of the adjacent sports turf areas will be provided.

Getting Ready for the CSFM Exam
Mary Owen, U MASS Extension, Mr. Mike Schiller, CSFM, Van's Enterprises, Ltd., Mr. George Trivett, CSFM,
Granite Falls Middle School
What you'll hear: This workshop presents an overview of the CSFM Exam and hints to help prepare for taking it. Without giving away specific questions, the presentation team will point out areas the exam takers should be familiar with. It will also show how the practical, everyday, part of sports turf management can help prepare you for the Exam. If you are thinking about certification, but are nervous about the test, this session is for you.

Understanding Your Soil Test Report
Dr. Tony Koski, Colorado State University
What you'll hear: This workshop will increase your understanding of what all of those numbers on your soil test report are trying to tell you about your soil. We will learn which numbers are the most important ones to pay attention to. Workshop participants will learn how to turn those soil test numbers into an actual fertilizer application. Practical application of the soil testing process to everyday life as a sports turf manager will be emphasized.

Soil Mechanics
Mike DePew, Pro Turf Environmental & Sports Turf Services
What you'll hear: This workshop will give an overview of soil mechanics principles. Principles covered include: cohesion, plasticity, internal friction, compaction, strength, impact attenuation and traction. How these principles apply to sports fields will be covered. Applications include: native soil fields, sand-based fields and skinned areas. This course is presented for the participant that has a solid background in soil science. The interrelation of soil mechanics to soil physics, soil chemistry, mineralogy, fertility, and soil biology will be discussed. Aspects of this workshop will be "hands-on" and participants should come prepared to handle soil material.

Cool- and Warm-Season Turfgrass
Species Selection and Winter Overseeding of Bermudagrass
Dr. David Chalmers, Texas A & M University
What you'll hear: This workshop will examine the strengths and weakness of various turfgrass species in terms of athletic field performance. It also will cover the interactions and results of winter overseeding of Bermudagrass.

Design Considerations and Construction of High-End Sports Fields
Dr. Bert McCarty, Clemson University
What you'll hear: Field design and field construction must work together to produce the kind of field that works within the parameters of the facility and field use schedules. This workshop will examine the components involved and provide guidelines for achieving success.

Water Management for Sports Fields
Dr. Richard White, Texas A & M University
What you'll hear: This workshop will examine water management strategies for sports fields.

Saturday, January 18
GENERAL SESSION
8:00-10:00 am
Topic: Fourth Degree Black Belt - For Life
Speaker: Dr. Mimi Paris, Paris Communications
What you'll hear: People who practice martial arts are constantly astounded by how the benefits overlap into other areas of their lives. In her two-hour, interactive presentation, Dr. Paris will demonstrate how lessons learned in the dojo are a metaphor for life success. For example, in karate, students practice, "this move, next move," making a move as a plan for the move that follows. The same principle needs to be practiced in life. You want to make your current move for a future move/benefit. It is strategizing for your own success. The point is to PLAN for your own success, not just have life "happen to" you. Other key points to be covered in this presentation include, but are not limited to: energy management, confidence, focus (not concentration), recovery and follow through. Participants will gain an understanding of how the concepts in karate apply to all areas of life success. In addition, they will immediately increase their confidence by learning a few simple self-defense techniques.

CONCURRENT SESSION
10:15 AM-12:30 PM
Each of the three topics in this set of concurrent sessions will run for 45 minutes.

THE BASICS TRACK
Is My Field Safe?
Jeff Fowler, Penn State Cooperative Extension
What you'll hear: We all say our fields are safe, but are they? In this session, we will take a look at some "safe" fields that have a few problems. We will focus on a checklist that has been developed to look at different areas of the field including the playing surface, bleachers, dugouts, out of bounds, and transition areas. The checklist forces us to take an objective look at our fields and put together a plan to correct any safety hazards.

Basic Aerification
Dr. Gil Landry, University of Georgia
What you'll hear: This session will cover the basic soil-air-water relationships that create the need for aerification, the basic methods and timing of aerification, and the development and evaluation of aerification programs.

Field Construction
Dr. Jim McAlie, Texas A & M University
Obtaining funding for the construction of a new sports field or the renovation of an existing field is...
often very difficult to come by. Too often this hard to come by moneys is wasted due to improper design and/or construction of the sports field. To insure success in field construction, there are several key steps which must be in place. First, develop a committee of experts to be involved from the very beginning in the design and construction of the field. This committee should be composed of an architect, engineer, turfgrass specialist as well as someone from the sports team such as the coach. All these individuals should have some experience in field design and construction. Next, hire a sports field consultant to oversee the actual installation of the field. Even with the best design specs in place, if there is not someone in place to insure that each phase of construction is conducted correctly, errors can be made.

THE TECHNICAL TRACK

Artificial Turf Fields - A Case Study
Mike Wagner, CSFM, University of Oregon
What you'll hear: This presentation will cover the latest in the world of in-fill artificial turf. What makes them different? What must one look for and watch out for? We will look at the Autzen Stadium expansion at the University of Oregon and discuss how we ended up with the surface that is on the playing field now. Mike Wagner will discuss some of the advantages and disadvantages of all the systems that were looked at during the four-year search for the "best" surface.

The Use of Modular Grass Trays for Permanent Sports Turf in Virginia Tech's Lane Stadium
Dr. David Chalmers, Texas A & M University
What you'll hear: This session will examine the process of selection, preparation and installation of modular grass trays as the permanent sports turf in Virginia Tech's Lane Stadium.

Overseeding with a Purpose
Dr. Mike Goatley, Mississippi State University
What you'll hear: In this presentation, participants will learn about the pros and cons of winter overseeding bermudagrass athletic fields. The steps to successful overseeding establishment and performance will be discussed, as well as alternatives in maintaining and/or removing overseeded grasses the following spring. Participants will have a better appreciation on how one should consider both agronomics and aesthetics in regard to winter overseeding.

TRICKS OF THE TRADE TRACK

Changing Hats - New Facilties - New Positions
Tom McAfee, Nelson W. Wolff Stadium
What you'll hear: This session will share some tips to help when changing jobs and when moving up to a new position at the same facility. When changing jobs - don't move too fast. Stop, look, listen and learn. Get the overview of what has taken place in the past. Give yourself time to understand how the current operation functions, including the information flow. Take time to connect with the personnel, both those on your staff and those within the other departments that interact with you staff. Be upfront about what you don't know. Remember your staff, other departments and your supervisors are assessing you, while you're assessing them. Many of the same elements are involved in moving up the ladder. This session will address an interesting dilemma - if you are in the position to 'replace yourself,' what characteristics do you seek? Do you look for an individual much like yourself - or someone with opposite areas of strengths and weaknesses? To be honest, what do you wish you did better - and can you hire it in someone else?

Major League Baseball
Tom Burns, Texas Rangers Baseball
What you'll hear: This session will discuss how to prepare the turf for the stresses of and the recovery from multipurpose events such as concerts, motor cross, marching band competitions, etc. Areas to be examined include: fertility, moisture, amendments, wetting agents, growth regulators, seeding, aeration - and how and when to do them. After 100 concerts in five years, LeGros has developed a timetable of techniques and procedures starting ten days prior to these types of events and running through the night before the event.

PROFESSIONAL DEVELOPMENT TRACK

Managing Crews
Boyd Montgomery, CSFM, University of Tennessee
What you'll hear: In this session we will discuss how to effectively manage your crews. We will talk about team building and motivating your team to get the necessary work done. How to recruit team members and how to retain crew members, will also be discussed. Personnel can be one of your biggest headaches. This session will give you ideas in how to build your "Dream Team".

A Survival Guide for Turf Managers
Bob Campbell, CSFM, University of Tennessee
What you'll hear: There's more to being a sports turf manager than growing grass. This session will discuss the key points that will help sports turf managers do a better job in those important non-turf aspects of management and, hopefully, feel better about themselves and their profession.
2:00 - 4:15 PM
ROUND TABLE DISCUSSIONS
Each topic will be repeated three times, for 40 minutes at a time, with a maximum of five minutes move in between discussion periods. Participants may choose the topics they wish to discuss, with a three-topic limit. Each discussion will be attendee driven based on the topics that are raised by the participants in each of the groups within their forty-minute session.

Field Painting Strategies
Abby McNeal, CSFM, Invesco Field at Mile High

Career Development & Representing Yourself Well
Dr. David Chalmers, Texas A & M University

Preparing for Success
Mike Andresen, CSFM, Iowa State University and Chad Follis, Student Membership Subcommittee Co-Chair

Baseball Field Maintenance
Tom Burns, Texas Rangers

Growing Grass in Low Light Conditions
Grant Trenbeath, Arizona Diamondbacks

Working with Events Scheduling
Ross Kurcab, CSFM, Invesco Field at Mile High

Coping with the Spring of 2002 - Weather and More
Luke Yoder, Pittsburgh Pirates

Keeping a Stable Surface In Wet Conditions
Jay Warnick, CSFM, Seattle Seahawks

Turf Transitions for Play from Other Events
Mark Clay, SMG Jacksonville/Jaguars

The Multiple Challenges of Parks and Recreation Facilities
Tom Curran, City of Pompano Beach, Florida

Is CSFM for YOU?
Mary Owen, University of Massachusetts Extension Mike Schiller, CSFM, Van’s Enterprises, Ltd., and George Trivett, CSFM, Granite Falls Middle School

The Multiple Challenges of High School Facilities
Dave Rulli, Jeffco Stadium

Coping with College Football
Sports Turf Managers Panel

The Multiple Challenges of College Facilities
Sports Turf Managers Panel

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Turf professionals have long used utility vehicles to safely and quickly get from point A to point B. Now some are finding it's also possible to get a little work done along the way.

"Today's utility vehicles are designed for so much more than just transportation," said Tony Wixo, product manager for the Polaris Professional Series line of commercial-grade vehicles and equipment.

One of the most versatile of the utility vehicle attachments is the power broom or sweeper. Affixed to the front of a vehicle, power brooms allow the operator to clean virtually anything from any surface.

On the turf, a utility vehicle equipped with a power broom can be used for dethatching, spring clean up or to clear debris following a storm. On sidewalks and parking lots, power brooms are ideal for removing dirt, sand, gravel and trash.

If you're located in an area where falling leaves are a precursor to falling snow, putting a power broom on a utility vehicle makes especially good sense.

"A power broom can clean packed snow right down to the surface or it can throw 6 to 8 inches of the fresh stuff nearly 15 feet," said Wixo. "It works better than a snow thrower."

If you plan to use a utility vehicle for snow removal, Wixo suggests selecting a model that can be equipped with a hard cab. "A hard cab and windshield wipers keep the driver protected from the elements and allow operation during even the nastiest of conditions," said Wixo.

A plow blade can be used in place of a power broom for heavy-duty snow removal. In the warmer months, the plow blade can also serve to move dirt and rock. To get the most use from any plow blade, it's recommended that it have heavy-duty wear bars and the ability adjust to different angles.

According to Wixo, one major factor to consider when selecting any attachments for your vehicle is the ease of installation. Choose attachments that can quickly be taken on and off by just one person. Also, be sure any connectors are weatherproof and of the highest quality to ensure years of successful operation.

Attachments aren't the only thing utility vehicles can be equipped with; they can also be fitted with add-ons, such as cargo and van boxes, that provide safe and secure storage for tools and equipment.

"You can even put a ladder rack on top of a vehicle or add a tool carrier and create your very own mobile work station," said Wixo.

With such a wide variety of accessories and attachments available, there's almost no limit to what utility vehicles can do. However, according to Wixo, before you run out and purchase an attachment, you should look at the specifications of vehicle.

"Not all vehicles are created the same," said Wixo. "Take the example of a pickup truck. A plow blade on the front of a compact pickup truck might work fine for clearing a driveway. But if you need to clear a whole parking lot or commercial properties, I'd bet you would rather be driving a half-ton or full-ton truck with four-wheel drive."

"The same is true of utility vehicles. For these types of applications, all-wheel drive is a must. Low-end power and torque are an integral part of maximizing the on-the-job efficiencies that attachments can provide. And if you're working on turf that you don't want to tear up, lockable differential is a must. With it you can flip a switch and the wheels will turn independently of each other, minimizing any turf damage."

Steve Rudolph is an account manager with Karwoski & Courage Public Relations.
Keeping it safe

When purchasing or renting a new utility vehicle most people look at performance, features and price. Chances are safety features are not at the top of the list – but they should be.

Selecting utility vehicles that emphasize safety can reduce the risk of workplace accidents, and might actually save your organization some money. Unfortunately, safety features vary greatly on today’s models so you’ll need to do your homework to find the best utility vehicle for your applications.

The use of utility vehicles at work is still relatively new – so new that the government has yet to develop many safety standards governing their design and operation. But that hasn’t stopped many of the leading manufacturers from incorporating enhanced safety features into their designs.

According to Tony Wixo, product manager for Polaris’ Professional Series line of commercial-grade utility vehicles, the most significant safety feature a manufacturer can add to its vehicles is Roll Over Protection Structure (ROPS) certification. Sometimes simply referred to as a roll bar or roll cage, ROPS protects a utility vehicle’s occupants in the event the vehicle should roll over as a result of careless operation.

Additional vehicle features that can greatly improve vehicle safety include a reverse signal alarm that is audible over the surrounding noise, and brake lights that can be seen regardless of light conditions.

Once you’ve selected a utility vehicle equipped with all the safety features needed for your use, experts recommend instituting written policies that govern the vehicle’s operation. Only designated employees should be allowed to drive utility vehicles and it’s recommended that all operators go through some form of training before getting behind the wheel.

All utility vehicle operators should have a valid driver’s license. Require your employees to notify a supervisor if their license is ever suspended or revoked, and periodically check records as an added safeguard.

Equipping your staff with the right utility vehicles for the job and properly managing the safe use of the vehicles can result in improved efficiency without the risk of increased accidents.

– Steve Rudolph

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The Cushman Commander 4800 lightweight turf vehicle has a 16-hp V-twin engine and a tubular-steel frame that can carry payloads up to 800 lbs. Large 20 x 10-10 turf tires work to reduce turf compaction. The heavy-duty front and rear leaf-spring suspension and hydraulic shock absorbers combine with the locking differential, rack and pinion steering and ample ground clearance to provide operator comfort with better traction and handling in rough terrain. The exclusive, high-torque, continuously variable-transmission (CVT) with forward and reverse enhances ease of operation and drive-ability.

Toro/952-888-8801
For information, circle 150, or see www.OneRS.net/211sp-150

VERSATILE UV
The Toro Workman with the Rahn groomer is perfect for finishing the playing surface in any ballpark. The Green Touch Industries bed rail system helps organize your tools. With the highest payload in its class, the mid-duty Workman allows you more versatility with one vehicle than ever before.

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The John Deere ProCator utility vehicle combines modern styling and operator-friendly features with durability and power. Available in 23.5-hp diesel and 26-hp gas versions, the vehicles have a 5-speed, fully synchronized transmission that lets you keep going without stopping to change gears. Hydrostatic steering provides for precision controls and a tight turning radius. With a 2,650-lb. payload capacity and a hydraulic lift, the ProCator can handle heavy loads.

John Deere/800-537-8233
For information, circle 153, or see www.OneRS.net/211sp-153

HANDHELD BLOWER

Shindaiwa has a new EB240S hand held blower. The unit features a revolutionary designed nylon impeller that is lighter in weight compared to the early die cast impeller featured on the EB240, but has the same great output and performance operators have come to expect.

Fast and flexible, the EB240S is often quicker than a backpack from truck to task. Also a great choice when the operator is responsible for a number of small jobs rather than cleaning a large area.

Shindaiwa Inc/800-521-7733
For information, circle 141 or see www.OneRS.net/211sp-141

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Club Car/800-227-0739
For information, circle 146 or see www.OneRS.net/211sp-146

FRONT-MOUNT SNOW BLOWERS

Erskine Attachments offers seven models of front-mount, PTO-driven snow blowers from 54-108 in. wide to match a wide range of today’s tractors from 18-150+ hp. A universal frame mount adjusts to fit most tractors. These frames all share as standard equipment a “Qwik-A-Tach” system for attaching and removing the blowers. Just center the tractor over the frame, and you can be ready to start blowing snow in a matter of minutes.

Erskine Attachments/701-241-8700
For information, circle 140

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Goossen offers its new blower for clearing leaves and debris. The unit’s 40-in. blower housing is split to allow easy access to fan. The 36-in. blower fan has eight paddles made of 1/4-in. steel and spins on greaseable heavy-duty bearings. Bi-directional air discharge is controlled via lever from operator seat. 30 PTO hp is required for airflow that is 225 mph.

Goossen/800-835-1042
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