

operation. The impact forces that occur during operation are so great that the necessary electronics could not withstand them. Ditch Witch, however, has recently developed what they say is a reliable beacon for the their Pierce Arrow pneumatic tool. This, in conjunction with a handheld locator, allows the piercing head to be located under the ground. The beacon and locator also allow the operator to know if the tool is proceeding on the desired course.

### Directional Borers

Directional boring units eliminate the need for an entrance and exit trench. The drill rod of a directional unit enters the surface at an angle and levels out beneath the ground. It can be steered in any direction and surfaced at the desired point. Distances of 500 feet or more can be accurately bored.

Directional boring units are the Cadillacs of the industry. These machines can actually maneuver underground, follow terrain contours, avoid obstacles and surface in the desired spot.

With this ability, however comes cost. But, when one considers the cost of

alternate methods the reasonability of their cost is quickly apparent. The time and labor that they save more than makes up for it.

Directional boring units use a special drill head to guide them as they maneuver beneath the surface. The cutting bit is basically a flat piece of hardened steel attached at an angle to the end of the drill pipe. When the operator wishes to change direction, he stops drilling and rotates the bit to the desired position. The drill-pipe is then pushed forward and the angled drill bit acts as a rudder, changing the direction of the bore in small increments. The position of the drill head is tracked by a beacon which sends a signal back to the operator, telling him the orientation of the drill.

Ditch Witch, in addition to making small version of their standard Jet-Trac system, has a new unit that should appeal to many that want the ability to do directional bores.

"The equipment is much easier to operate than most people think," says Shan Kirtley of Ditch Witch. "We have a new unit that is an attachment to

any 30-plus horsepower trencher with a hydraulic manifold system. It bolts onto the backfill blade and is a good way for people to get into directional boring."

Bor-Mor has a directional unit that attaches to a standard skid-steer loader. This offers the versatility that many are looking for. "It's a fully capable directional unit that," says Steve Shultz, a Bor-Mor systems engineer. "If the operator is experienced and is properly prepared, the boring unit can be attached and ready to operate in about five minutes."

Directional boring units themselves are not difficult to operate, but the techniques necessary to make successful bores in difficult soils or terrain while maneuvering under and around obstacles is another matter. Boring is more than just drilling a hole in the ground, especially since directional boring units use water injected through the pipes to assist the process.

Because of these complexities, companies like Bor-Mor, Ditch Witch and Vermeer offer a variety of factory and in field training. □

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The Sports Turf Managers Association (STMA) is an organization of professionals representing all segments of the sports turf industry. Our members work to combine the science of growing grass and the art of maintaining sports turf to produce playing fields that are both safe and aesthetically pleasing.

STMA provides members with a variety of benefits, including: Education through regional institutes and conferences; support for sports turf research; facilities tours; a national awards program; access to the STMA National Conference and Exhibition; complimentary subscriptions to *Sports Turf Manager* and *sportsTURF Magazine*; and much more.

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# ROOKIES

## Sod Stripper



The Miltona Sod Stripper is perfect for those small repair jobs in any type or height of grass. It was designed by a golf course superintendent to repair hydraulic-oil

spills on his greens. When pushed through turfgrass, it easily cuts out damaged areas of sod. Then from a nursery area, cut replacement strips to complete your turf repair. Four interchangeable cutting blades — two to seven inches wide — are included. The cutting depth can be adjusted from 5/8 to one inch.

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## Beneficial Nematode

Mole crickets are one of the most destructive turfgrass pests in the southeastern U.S. One mole cricket can create a 10 to 20-foot tunnel in one night, leaving the soil dry and causing serious damage to the turf root system.

Utilizing a beneficial nematode, *Steinernema riobraivis*, a Palo Alto, CA-based company is marketing a new product, Lesco Vector MC. The treatment is exempt from EPA registration since beneficial nematodes are naturally occurring organisms and are not harmful to humans or animals. Treated areas can be used right away.

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The balance of potassium to nitrogen helps turf plants increase cell-wall thickness. The plant is better able to resist fungus and insect attacks, as well as extreme temperatures and drought stress. The fertilizer also reduces clippings since its potassium-to-nitrogen ratio reduces the rate of leaf growth, making more carbohydrates available to the plant for storage and growth.

### VICKSBURG CHEMICAL

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## Turf Injector/Aerator

The MJI 300 aeration/turf-injection system was built for use on all types of athletic fields, parks and turf farms. It was designed to aerate greens by high-pressure liquid stream injections, inject wettable powders or mixed chemicals, emulsions and liquid fertilizers — all at the same time.

It also reduces labor costs by requiring only one person to operate it. Its three-wheel, low-pressure design, coupled with wide tires protects delicate turf while giving precise control over speed and injection frequency. The machine with a full tank (79.25 gallons) weighs less than 1,600 pounds.

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## Turf Reinforcement



Manufactured of engineered polypropylene fiber in fibrillated form, patented Turfgrids combine with native or select soils to produce a toughened composite athletic surface with increased traction in both saturated and unsaturated conditions.

University and athletic field installations show that when mixed with soils, the bundle matrices open and interlock with soil grains to produce a created-in-place soil/fiber composite. Turf is also anchored by the soil fiber composite.

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## Spray Boom

The Wind Warrior allows for safe application of pesticides and other liquid turf applications while protecting the operator and the environment from unwanted spray drift.

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## ADVERTISER INDEX

ALCA .....	16	Kwik Trench .....	32
Anchor Industries, Inc. ....	17	McCord .....	5
Aquatrols Corp. of America ...	15	Millcreek Mfg. Co. ....	7
Beam Clay Award .....	21	Multi-Flow Drainage Systems ..	36
CelPril .....	26	M. Putterman & Co., Inc. ....	34
Cygnat Turf .....	32	Partac Peat Corp. (Beam Clay) 34	
Diamond Demon .....	26	Stabilizer, Inc. ....	26
Floyd McKay Aerofier Co. ....	29	Stamos Tool, Inc. ....	29
Gordon Bannerman Limited ...	2	STMA (Application) ....	31
ISA .....	3	STMA Conference .....	35
Inject-O-Meter Mfg. Co., Inc. ..	26	STMA (Award) .....	13
Jaydee Equipment Co. ....	29	Turfco Mfg. Inc. ....	32
Kifco Inc. ....	32	Ty-Crop Turf Equipment, Inc. ..	19
Kromer Co. ....	29	West Coast Turf .....	23

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- Noted turf expert Dr. James Beard will kick off the program with a look at the sports turf industry and its future.
- New advances in technology including: laser grading, soil elements, fertilizer technology,

hydro-aerification and soil injection, computerized irrigation and transportable turfgrass modules.

- Sessions on soil-water-turfgrass relationships, administration of athletic field projects and maintenance, irrigation design and installation, and equipment maintenance for performance and longevity, and much more!
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