

Japanese Major League Baseball, Fall Instructional League, Arizona Fall League, Little League, Babe Ruth, and Fantasy Camps. A wide range of other community events are held here, as are numerous city-sponsored festivals and concerts and the city baseball leagues as scheduled by the recreation department."

Spring training for the Korean and Japanese teams begins in early January. The Padres and Mariners start their spring training in mid-February and it runs through March. Another prime season begins in August, with that stretch running through the season of the Arizona Fall League team, the Peoria Javelinas, who complete play in October or November. The spring/summer gap is filled by all the other activities listed above. There are approximately 45 days of "slow" time between mid-November and early January.

Calcaterra's typical seasonal crew size ranges from 15 to 20. Of that crew, seven or eight are high school students. He says, "Obviously we observe all the OSHA rules, standards and factors, and all other national, state, regional and local regulations as they relate to all employees. There are some functions our high school students are too young to perform. But there are many advantages that make up for that. These students are trained in working within a crew, meeting quality standards, and producing consistent results. They're dependable, punctual, interested in learning the job and enthusiastic about working at our facility.

"Mike does an excellent job of matching the abilities of the intern to the demands of the internship position," Calcaterra notes. "These kids are good. So good, in fact, I've kept several each year in my pool of part-time seasonal and special event employees. They can work after school and on weekends, just not more than three days a week during the school year.

"The cross training Mike's program provides is an additional benefit," Calcaterra continues, "because ours is a multi-use complex and we maintain the entire grounds, not just the sports fields. For example, on Arbor Day, we had three of Mike's students here digging holes and demonstrating proper tree planting procedures as part of a



Mike Gillispie (left), Agriculture Education Instructor for the Peoria Unified High School District, and Chris Calcaterra (right), Baseball Supervisor for the City of Peoria Sports Complex, have developed a win-win student internship program.

community horticultural outreach program."

The benefits are mutual. Gillispie says, "The interns get a taste of the 'real world' work environment. They go through the interview process, and they become part of a crew consisting of long-term employees and other seasonal personnel that are older and more experienced. Chris gives the students an opportunity to perform multiple tasks and see what real sports turf management entails. They're accountable for their job performance to their foreman, to Chris and to me and our program."

And that's just part of the picture.

The agricultural welding classes can build to order on special needs for Calcaterra. They made the hitches to attach hose racks to the Gator utility vehicles. They're currently working on welding sturdy screens for the baseball fields.

The close connection leads to sharing in other areas. Equipment purchases are coordinated with multiple use in mind. The school may own one piece of equipment, the sports complex another and the golf course another, and all share in their use.

Gillispie's students just finished rebuilding the on-site golf facility, with a chipping green, putting green, bunker and surrounding turf, fencing and land-

scaping. This was necessitated by the construction of the Peoria High School Engineering and Biotechnology Facility, providing more and better space for the total agricultural education program.

The Peoria Agricultural Education letterhead shows this tag line, "FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education." That's certainly reflected in the results of the school's program.

In addition, Gillispie has been one of the FFA leadership instrumental in the development of an 800-page, CD-ROM-based instructional material resource guide for the National FFA Council. Such industry leaders as Scotts, Toro and John Deere have provided input and funding for this project. Gillispie is one of the trainers for the state of Arizona in the golf and turf instructional material.

The Peoria Mike and Chris team's vision is spreading nationwide.

For information on the Peoria Sports Complex contact Chris Calcaterra by phone: 623-412-4226 or email: [ChrisC@peoriaaz.com](mailto:ChrisC@peoriaaz.com). For information on the agricultural education program and the instruction material resource guide, contact Mike Gillespie by phone: 623-486-6323 or by email: [mgillisp@peoriaud.k12.az.us](mailto:mgillisp@peoriaud.k12.az.us).



# Aerators

Product briefs on aeration equipment available from 14 different manufacturers.

## Bannerman Ltd.

The company's BA-600-S/S-H Super-Ject Aerator is available with five different tine styles and two transportation modes—Category 1 or 2 three-point hitch, or tow-behind with hydraulic lift. More specifically, users can choose between .75-inch core tines, one-inch renovation tines, 5mm slitter slicer tines, 8mm slitter slicer tines, or fracture tines. Some of the benefits of slitter tine aeration include clear cut entry and exit of the tine, the ability to play on the surface immediately after aerifying, drainage of excess surface water, conservation of water during irrigation, elimination of core residue, and compaction relief. Bannerman calls the unit the most versatile six-ft-wide aerator you'll ever own, and offers a number of options to help customize the model selected.

Website: [www.sportsturfmagic.com](http://www.sportsturfmagic.com)



## BlueBird International

The BlueBird TA10 towable aerator, which can aerate up to three acres per hour, is ideal for aerating larger commercial areas. The TA10 hooks up to a 16-HP or more tractor, permits a variable aeration depth of up to three inches, and features an aeration width of 36 inches. Tip wheels allow the machine to easily pass through narrow openings, and an easy-access hand crank enable simple raising and lowering of tines.

Five optional weight containers provide optimal soil penetration, and the rugged design of the TA10 ensures years of low-maintenance productivity. The company also offers walk-behind aerators offering aeration widths of 17 inches to 25.5 inches.

Website: [www.bluebirdintl.com](http://www.bluebirdintl.com)



## Bush Hog

The Verti-Cut machine promotes lush, green growth in fairways and other sports turf areas by removing thatch build-up, allowing grass to access water, air and nutrients. Three- and five-gang models, with aeration widths of 76 to 138 inches, are available for tractors with 24 HP to 45 HP. Depth adjustments can be made quickly and easily, allowing operators to set the machine for fine grooming or a more aggressive cut according to turf conditions. Standard blade spacing is 1.25 inches, but spacing can be adjusted to 2.375 inches, 3.5 inches or 4.625 inches. The Verti-Cut features rugged Bush Hog construction, uses belt drives for reduced tractor stress and heat build-up, and can be easily converted to a reel mower.

Website: [www.bushhog.com](http://www.bushhog.com)

## Grasshopper

The Aera-vator attachment for Grasshopper zero-radius power units aerates compacted soil, yet it leaves little surface disruption and no cores to clean up. Turf is ready for use immediately following treatment.



The Aera-vator's forged-steel tines vibrate in a rapid oscillating motion, and are powerful enough to loosen traffic-packed parkways and areas where obstructions such as small rocks are present. Upon penetrating the soil, areas around and between the holes become fractured, relieving compaction and creating openings for root growth and absorption of water, air, nutrients and chemicals. The unit utilizes the Grasshopper Quick-D-Tach mounting system, which enables operators to quickly switch between the Aera-vator, cutting decks and other attachments.

Website: [www.grasshoppermower.com](http://www.grasshoppermower.com)



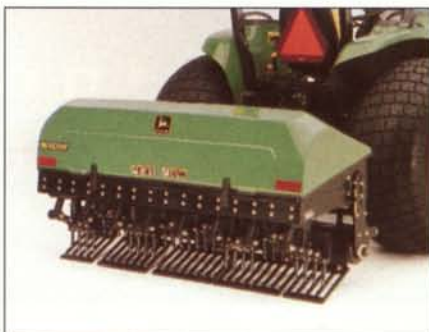
## Hines Manufacturing

The Hines Drill Aerator has been upgraded and redesigned to make it simpler to operate, lighter weight and smaller than previous drilling equipment. The machine relieves



subsoil compaction, improves drainage and air exchange, and provides faster healing times than other types of aerators. Instead of removing cores, the machine gently folds back the healthy grass surface during the aeration process. The Hines system can be adjusted to drill from one inch deep, up to 15 inches deep in the hardest subsoils. The unit weighs under 3,000 lbs, and applies just a nine-PSI footprint on soft turf surfaces. The extended drill depth allows penetration of hard pan layers. Hines has eliminated the cumbersome drill box present on some other drill aerators, instead using a lighter system of stripper bars that prevent any uplifting of the surface during the upstroke. The Hines Drill Aerator is gentle enough to aerate freshly laid sod, and is also recommended to relieve "hot spots."

**Website:** [www.hinesmfg.com](http://www.hinesmfg.com)



### John Deere

The Aercore Aerator 2000 features an 80-inch coring swath, makes holes up to four inches deep, and can cover 100,066 sq ft per hour. This tractor-mounted attachment delivers high productivity—a swath 20 inches larger than the company's 1500 model—without sacrificing hole quality, durability or ease of service. The Aercore 2000 is durable due to its heavy-duty frames and tine rams, and is versatile due to its adjustable hole spacing—a 2.4-inch pattern, or a 3.2-inch pattern, depending on speed of movement. Because the aerator is powered by belts, instead of chains, it operates quietly and smoothly and does not require lubrication. Rear cowlings on the Aercore 2000 lift simply, to make daily checks and routine maintenance easy. John Deere's patented Flexi-Link design ensures tines stay perpendicular to the ground, thereby producing consistently round holes and leaving little or no scuffing at the top of each hole.

**Website:** [www.deere.com](http://www.deere.com)



### Millcreek Manufacturing

Millcreek Core Plug Aerators are available as three-point hitch, front-mount or tow-behind models, and all in different widths. The Model 630 is ideal for athletic fields, weighs 410 lbs, features 72 total spoons on 12 spoon wheels, and provides a coring width of 60 inches (total width equals 63 inches). Millcreek spoon wheel sets—mounted in pairs for maximum penetration, easier turning and minimized turf damage—can be replaced one pair at a time, which reduces parts costs as compared to replacing an entire section. Each Millcreek Core Plug Aerator comes equipped

with a sturdy protector shield that protects workmen, children and animals from being injured by sharp aerator spoons. The shield fully encloses the spoon wheels on the top, front and back of the unit. Other features of the units include Teflon-coated, oil-impregnated bearings, or greasable bearings in commercial units; temper-hardened, long-life spoons; 1.5-inch solid square bar which forms the main frame; and a convenient weight rack that provides control of core depth, up to four inches.

**Website:** [www.millcreekmfg.com](http://www.millcreekmfg.com)

### Redexim Charterhouse

The manufacturer's Verti-Drain Mustang (Model 7117) aerator allows turf managers to perform deep tine aeration at speeds exceeding 2.75 MPH—a speed which the company believes is at least 80% faster than competing methods. The Verti-Drain Mustang offers a shorter throw and penetrates to a shorter depth (down to six inches) than other Verti-Drain models. The unit requires a 25-HP tractor, can be equipped with either

*continued on page 26*

## Soil Reliever Model 75 Heavy Duty



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solid or hollow tines, and features ten arms that permit spacing of just over two inches between tines. Exceptionally smooth operating characteristics are the result of a sophisticated crank system and, like the company's other models, the Verti-Drain Mustang's heaving action can be adjusted using a single lever.

Website: [www.redexim.com](http://www.redexim.com)

### Sisis

Deep, clean penetration and rugged engineering for a long working life are some of the qualities of the Sisis Deep Slicers. Three tractor-mounted models are available, including the Sisis



Megaslit, Sisis Multislit and Sisis Maxislit. The Sisis Maxislit, a deep slicing aerator designed for outfield turf, offers seven or nine inches of penetration and a 63-inch working width. Plates in the machine incorporate a wide rim to reduce surface marking in soft or undulating conditions, and tines can be fitted for use on fine turf or in shallow soil conditions. The Maxislit's rear safety guard is removable for easy tine fitting, and side guards add to operator safety. An optional floating roller provides a smooth finish and a striped cosmetic effect.

Website: [www.sisis.com](http://www.sisis.com)



### Southern Green

The manufacturer's Soil Reliever 75 Heavy Duty (SR 75HD) is the newest addition to its aerator product line. The SR 75HD is a six-arm aerator with about 78 inches of working width. Designed to do deep tine aeration in the toughest conditions, the additional weight of the SR 75HD gives it the power to penetrate extremely compacted soil surfaces, and to a much greater depth than is possible with other machines. The machine operates on a standard 45- to 50-HP tractor, and is ideal for any

*continued on page 32*

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# Why Aerate?

**S**oil compaction is a problem for both lawns and sports fields. Almost every turf grass area experiences some degree of soil compaction. In lawns, compaction can develop gradually over the years from regular mowing activity, and can develop more rapidly when lawns are in heavy use, such as when serving as a heavily used play area for children.

In sports fields, compaction is more easily recognized. For example, when a football team practices every day on the same field, and the marching band uses that same field between practices, turf quickly wears away. Soccer fields get heavy play around the goals. Even baseball and softball fields that host many games suffer from compacted soil, leading to worn, weakened grass plants and bare spots.

For sports turf especially, physical injuries have been tied to poor turf conditions. It's believed that up to 20% of all sports injuries are turf-related. The softer the playing surface, the more cushioning effect for athletes. For this reason, many believe that lush, dense turf is the best athletic playing surface.

All plant roots breathe. Simply put, compacted soil smothers turf roots. Compaction is a physical process which slowly reduces the amount of oxygen contained in a soil. The mineral particles, moisture, and organic materials in a soil do not compact. The only part of the soil which compacts is the air space between soil particles. As the air space is reduced, the percentage of water in the soil is increased and drainage is impeded.

Oxygen from the atmosphere moves into the soil through very small pore spaces to plant roots. As soil absorbs the force of traffic, soil particles (especially in the top inch or two) are compacted into a layer so that less oxygen enters the soil and less carbon dioxide escapes. The net result is a gradually thinning turf, until the soil can no longer support turf growth. Only weeds grow well in compacted, oxygen-deficient soils. Since compaction is a physical process, a physical remedy—aeration—is recommended.

In addition to adding much needed oxygen to the soil, and improving the health of grass plants, regular aeration also:

- Reduces thatch buildup (thatch is dead plant material lying on the soil surface at the base of grass plants, which can attract unwanted insects and fungus)
- Improves water infiltration
- Improves irrigation efficiency
- Improves fertilizer efficiency
- Helps reduce the need for chemical pesticides

Core aeration—removing two- to four-inch cores from turf—is generally considered the most effective form of aeration. Other aeration techniques which affect soil deeper than four inches may be required for treatment of severe compaction problems, depending on the soil conditions.

To identify soil compaction problems, make a visual inspection. Most compaction problems are obvious. Worn or bare turf, and/or weak turf plants, are sure signs. Standing water, and areas that are especially soft after rain may also be signs of compacted soil. Isolated dry spots can also indicate compaction.

Take a soil profile sample. If you don't have a soil sampler, a thin soil slice made with two cuts of a spade will do. Look for hard soil, high clay content, low water infiltration rate, black layer, poor rooting and waterlogging.

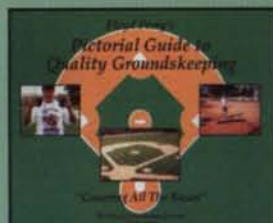
Regular aeration, best done during spring and fall, will help restore poor lawns and sports turf. For heavily used turf, more frequent aeration—once every four to six weeks throughout the growing season—is ideal.

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*The above piece was excerpted from an aeration booklet, which is available from Millcreek Manufacturing Company free of charge. The company may be contacted at tel. (800) 311-1323 or [www.millcreekmfg.com](http://www.millcreekmfg.com).*



# BookSTORE



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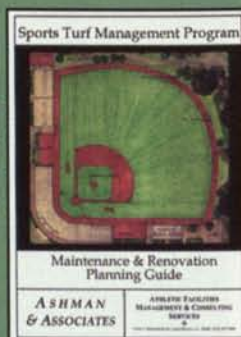
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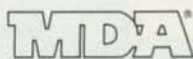
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