

Tools & Equipment



Selecting the proper synthetic turf maintenance equipment

» REGULAR SYNTHETIC TURF MAINTENANCE insures long life and safe playing conditions.

Pick a drag brush that is designed **specifically** for synthetic playing surfaces.

Editor's note: This article was written by Paul Hollis of Redexim Charterhouse, Inc.

The sports turf industry has seen a great increase in the number of synthetic turf fields over the past decade. Unlike the first and second generations of synthetic turf, the third generation playing fields have longer fibers and are filled with rubber, sand, or a mixture of both to reduce the hardness of the playing surface.

While many buyers of these surfaces cite their being "maintenance free" as a major purchasing consideration, after seeing many fields that are 6-8 years old that have not been maintained, the manufacturers themselves will admit that there needs to be a degree of maintenance done to the fields to prolong the life of the field

and keep them aesthetically pleasing. The most disappointing thing to sports turf managers is that most of manufacturers will claim that only

they or one of their installers can properly maintain the carpet.

To better understand the maintenance required of today's synthetic fields, one must understand the basic construction of the synthetic playing surface. It consists of fibers or carpet, the infill (sand or rubber), backing material, a choker stone layer, open grade and soil. It

may sound complicated, but in essence the fields are not all that different from your household carpet. In order to select the proper maintenance machine for your field you must remember three



» IF USED PROPERLY a vacuum can remove hair, dust and other small pollutants that a blower will move from one place to another.

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» Above: A **SIMPLE DRAG BRUSH** is a great way to groom the field and return carpet fibers to their upright position

» Below: **PULLING SPRING TINES THROUGH THE UPPER INFILL MIX** is the only way to relieve compaction and lower GMAX concerns.

Always put a rope through the spring tines in case one comes loose or breaks.



basic components of field preservation:

- Keep the surface free of debris
- Keep the fibers in an upright position
- Keep the infill free of compaction

To keep the surface free of debris, it is obvious that the debris must be removed. Organic material such as leaves should not be allowed to remain on the surface for any length of time. They can start to decompose and wander into the infill system, which can impede drainage on the field.

Some companies may instruct the owner to use a brush or backpack blower to remove the material from the surface. This may work for larger items, but when small debris such as sunflower seeds are a problem, a blower just moves the pollutant from one spot to another. To properly remove debris it is recommended to use a mechanical sweeper or vacuum to collect and remove the material. The amount of maintenance needed varies from location to location, but clearly a maintenance machine must be well maintained and the instructions must be carefully followed as to not cause any damage to the playing surface.



- » Above: **CONSIDER WHAT EQUIPMENT YOU'LL NEED** for a maintenance program when purchasing a new field.
- » Right: **SIDELINE AREAS** require special attention due to litter such as tape, sunflowers seeds, water cups, etc.

Regular grooming is a must to keep the carpet fibers in an upright position. If an artificial playing surface is not regularly groomed with a proper drag brush the surface will become slick and the fibers will wear prematurely. If the fibers are allowed to lay over and remain bent too long they may be difficult to stand upright again, so they need regular attention. A drag brush can easily be found that can be used behind any power unit, including small tractors, utility vehicles, golf carts or even small mowers. Dragging will improve footing, redistribute infill, reduce static electricity, and improve the look of the playing surface.

Just like natural turf, all types of infill become compacted in time. Through research we know that GMAX ratings over 200, measured with a Clegg Drop hammer, pose greater risks for athletes. To reduce the compaction levels it is imperative to use a drag brush with spring tines to loosen the infill mix. The infill mixes that use sand, or a sand/rubber mix tend to see higher GMAX levels due to their design. They use sand not only as a weighted base, but to make the infill stiffer for a faster and harder playing surface.

When planning a synthetic system purchase, make sure to include the price of these three machines for proper maintenance. The maintenance program will not only provide a better looking and safer playing surface, but it is also an investment to insure a longer life for your surface.

When making a purchasing decision remember to ask these key questions:



- Can I do my own maintenance?
- Is there a recommended maintenance program?
- Is there a recommended or approved list of maintenance equipment?

Some manufacturers may try to make you think that only they or their installers can maintain a synthetic field. Many have an approved list of machines that can be used on their fields that you can buy only from them, which limits your choices and increases your costs. Be advised to look closely at manufacturer warranties before making a buying decision. Some companies have clauses that restrict users by hours of use, maintenance schedules and other items such as improper footwear. When gym class, band practice, and actual game time is added up it not only voids warranty, but it shortens the life of a playing field. ■

Paul Hollis is the executive vice president of Redexim Charterhouse, Inc., www.redexim.com.



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College's unique vehicle cuts costs, offers comfort

By Hency Yuen-Eng

A new vehicle at Monroe Community College in Rochester, NY, is turning heads around campus, but you won't find this model in any showroom.

Dubbed the "Trash Master," the modified, two-door Chevy Cavalier is the Facilities team's unique solution for a vehicle equipped not only to collect all sorts of trash and provide the driver with heat and comfort during inclement weather but also promises to deliver significant cost savings in upkeep.



"The car was a farfetched idea, but it's worked very fine," said Ron Fess, supervisor of campus grounds. "So far, so good."

For nearly 15 years, the Facilities team used a 6 x 4 utility vehicle that was retrofitted to collect trash, leaves and other debris around the 300-acre Brighton Campus. The gas-powered vacuum unit, a leaf vac that was refashioned to discard paper, plastic and other objects, was efficient, but the vehicle became too costly to maintain. The unconventional use of the vehicle constantly on asphalt, rather than on grass, frequently wore out the tires and damaged the axles.

With no doors on the vehicle, the driver also was regularly exposed to inclement weather. So earlier this year the Facilities team went to work to solve the problem. Workers spent a month retrofitting the used sedan donated by a local dealership, Hoselton Chevrolet in East Rochester. They



carved a hole in the driver's door large enough for an arm to get through for easy access to the suction hose. They also cut the car's roofline in half; gutted the back of the car—including the trunk, back seats and rear windows—to the car's subfloor, leaving the fenders and rear bumpers intact; and mounted the existing, retrofitted vacuum unit to a custom-made framework on the subfloor.

In addition, an insulated panel between the front seat and the vacuum motor reduces outside noise for the driver.

"There were no blueprints or drawings. It was, 'Oh we'll start here and see where it takes us,' " Paul Pfenninger, auto mechanic at MCC, said about retrofitting the campus-owned vehicle with the help of staff horticulturist Greg Nickason. They helped solidify the design concept after Fess shared his vision with them.

"We didn't compromise the strength of the car. From a mechanical standpoint, it's a lot better than the old equipment. It doesn't require as much service. Parts aren't breaking down as often," Pfenninger said. "The tires on the old equipment are not designed for roadway use. We were changing tires every 6-8 weeks and changing axles three times a year."

An electric start on the 13-horsepower vacuum motor turns on the unit. Connected to the motor, the 7-foot suction hose protrudes over the driver side of the vehicle and features a handle grip within the driver's reach. The handle is kept in place with a sophisticated network of elastic cords,

chains, metal bars and steel clasps.

Because the hose is flexible, the driver can easily maneuver it to pick up trash along curbs. The hose is wide and powerful enough to pull in wet leaves, glass bottles, unopened soda cans, plastic milk jugs and empty oil cans. Shredded or crushed debris is forced out through a discharge chute into a 50-cubic-foot covered metal receptacle, manufactured by Facilities workers.

The container design makes

it a breeze to empty the collected trash: The driver presses a toggle switch in the vehicle to activate a lift system and walks back to open the receptacle door. A front loader sits behind it to catch the debris and deposit it into a larger garbage bin.

The capacity of the metal receptacle is large enough to hold 4 days worth of trash.

"You can't buy it like that. They don't sell them in boxes. We made all this stuff on our own," Fess said about the container.

Michael Wichtowski, the main operator of the car, hopes the vehicle will last another 100,000 miles. Ten other people, who also spend 2-3 hours a day picking up trash on campus, use campus-owned golf carts to do their job. Garbage pickup accounts for one-third of the crew's daily workload.

"The new vehicle is user-friendly; it makes the route a lot quicker to do. And it has heat for the winter," Wichtowski said with a smile, a stark contrast to how he felt last winter, when he'd come in from his shift with frozen feet and his body covered with grime. "With this vehicle, the dust stays outside." ■

Hency Yuen-Eng covers Facilities news for the College and Community Relations Office at Monroe Community College in Rochester, NY.

Advice for better topdressing/spreading results

Editor's note: We asked some manufacturers of topdressing machines and spreaders to give readers three quick pieces of advice.

1. Before topdressing, always take a soil sample to determine what your field really needs. Many sports turf managers just look at what golf courses are doing and think everything they do will also work for them. Even golf courses topdress for different reasons. An example would be: Do you have soil with heavy clay content that has poor permeability and lacks the ability to hold moisture? Then you may want to consider topdressing with compost or a compost blend in conjunction with aeration.

2. Develop a strategy or plan covering how to best improve your field. You may have to work with a local extension agent to ensure you are doing what is right. Write the strategy down and then follow it, monitoring your results and making adjustments as needed.

3. I know budgets are tight, but if you are going to buy a topdresser, buy as big a unit as your budget will allow; it will save on trips to and from the pile. The final objective of topdressing is to improve the soil in your field, so that it will support healthy turf growth and improve field playability.

-John Bentley, Earth & Turf Products, LLC

1. Use a quality brush
2. Use dry materials
3. Aerate first

-Paul Hollis, Redexim Charterhouse, Inc.

1. Place the sand as close to the field as possible as it takes longer to load and travel back to the pile than it does to spread each load.

2. Use a calibration program (one is available on www.dakota-peat.com) to insure you have enough sand for the entire field. I like to run it on the short side so I can have some left over at the end to use for touch up or high traffic areas that need a little more.

3. Stay on the topdressing program; it's not a one-time fix.

-Randy Dufault, Dakota Peat

1. Precisely applying the product is most important. Precision spreading will cut waste and cost, improve plant growth by applying the precise product at the correct amount, which in turn reduces environmental impact by reducing run off of product by over application

2. You get precise applications through correct gate openings, calibrations to ground speed, and spinner spread control for width.

3. If you can keep your speed constant while at the same time controlling the fertilizer flow at a pre set amount and the spinner speed at a preset width you will have accurate spread.

-Bob Brophy, Turfco Manufacturing

1. Adjust the belt speeds and metering gate before topdressing a large area. These adjustments, as well as machine ground speed, control the amount of topdressing distributed onto the turf. It is important that these settings are pre-set before topdressing to maintain consistency throughout the area to be topdressed. Pick a small area to fine-tune the settings before going out to the main area. Otherwise, different areas will be covered with different levels of topdressing as the settings are fine-tuned. As you get more familiar with your topdressing needs, it will be much easier to establish these settings.

2. Operate at a constant throttle setting. Many topdressers use the hydraulics of a traction unit to control the speed of the belt and spinners. Some operators have a tendency to speed up and slow down their ground speeds, which will also speed up and slow down the belt and spinner speeds, leading to inconsistent topdressing. Once you have established the initial settings and select a throttle

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and ground speed, stick with it for consistency.

3. Make straight lines. For a consistent topdressing application, it is important to maintain a straight line to minimize overlap. Curved lines lead to less efficient topdressing, heavy topdressing in overlaps, and possible wheel-tracking from making turns with a heavy load

-Brad Aldridge, John Deere Golf

1. Know your turf. What is the purpose of your field? What is it composed of? How much water does it retain? Will there be higher traffic in one area than another? How often will it be used? Each field is different; the soil and water requirements are different. Knowing and understanding your turf will help you make the best decisions on how to nourish and maintain your fields.

2. Use the right material. Remember the old adage, "You are what you eat"? Your field turf is the same, the material you put on your turf is directly related to the results you will receive. If you need to amend the soil and provide nutrients you should use the best product available to provide a lush, soft, sports field. Never use a topdressing product without a thorough understanding and testing of the particle size of the material. Sand is a good example. It is a long-time, excellent choice for topdressing, as it is readily available and somewhat inexpensive. However, it

is important to perform a particle size analysis for the material, and never assume that a named sand will always be suitable for your needs. Numbers and names of sands can have tremendous variation, as their original purpose was usually for road building or construction, not sports fields.

3. Have the right equipment for the right job. Topdressing requires precise material application. If the equipment you have does not apply the material optimally, it's like throwing money out the window because your efforts and expense of material and labor will be wasted. There are many topdressers on the market; do your homework to make sure you have the right equipment for your turf, application and budget. If your budget can afford it, purchase a step up so you have the ability to expand the use of the topdresser as your needs increase. A field will go through stages of growth and the applications can range from spreading a variety of materials (topsoil, fertilizer, topdressing mix, lime, crumb rubber, etc) in a variety of conditions using a variety of attachments (brush, dual spinner, beaters) throughout the years. If you have the most versatile, well-made topdresser you will be saving money in the long term while having the best fields.

- Tina M Merrill, Millcreek Manufacturing ■

Topdressing critical to safety

Topdressing is one of those cultural practices that, along with aerification, are extremely important in providing safe playing surfaces. Topdressing fills divots, levels the playing surface for a true ball bounce and topdressing with the proper material can increase infiltration. When combining topdressing with aerification you can also begin to improve the composition of the rootzone making it drain better and provide a better medium for exchanging carbon dioxide and oxygen.

The most important factor in process of topdressing is choosing the proper topdressing material. Sand or a combination of sand and peat are the most popular topdressing materials although it is imperative that a particle size analysis is performed on both the topdressing material and the field soil to make sure they are compatible.

Although topdressing alone is helpful, the best time is right after aerification so the topdressing material can be incorporated deep into the rootzone. The bottom line is that a topdressing program of adding ½ inch of topdressing annually will pay huge dividends in making your athletics fields safer, more playable and better looking.

-Dale Getz, CSFM, The Toro Company



Topdresser for ProGator UVs

Specifically designed for the John Deere ProGator 2020 and 2030 utility vehicles, the TD100 Top Dresser's hopper is made of galvanized steel that resists corrosion and is supported by a steel frame for strength. For even distribution, a fixed-speed nylon/polyester cordless conveyor belt moves material under the full-width metering gate and through a rotating brush for even distribution. The conveyor belt and rotating brush are powered by a hydraulic motor that operates off the ProGator hydraulic system. The hopper capacity is 12 cu. feet full or 19 cu. feet heaped. The rated capacity is 1500 lb., and the spreading width is 56 inches. The opening adjusts from 0 to 3 inches.

www.deere.com



New MultiSpread model available

Earth & Turf LLC introduces its new MultiSpread model 320, a 1-cubic yard topdresser with exclusive, wide-spread beater, for turf maintenance professionals. Spreads topdressing materials, infield mix, calcined clay, crumbed rubber, and grass clippings. Two-wheel ground drive or available hydraulic drive with 26 x 12.00-12 turf tires insures easy pulling by 20-hp tractors. Prices start under \$5,000.

www.earthandturf.com



Easy Spread now in two sizes

The self-loading Easy Spread is now available in two sizes, 52 and 63 inch working widths), and is designed to be loaded, driven to the site, and used without the operator ever leaving the seat. An electric switch, activated from the tractor cab, engages the hydraulically powered distribution drum, and a variable control valve sets the rotational speed of the drum. The spreading thickness is independent of tractor speed and can be varied from a light dusting to ½ inch. The unit is fully supported by a 3-point lift, and can spread wet or dry granular material, or salt on winter surfaces.

www.redexim.com

Turf Tiger topdresser

The Millcreek Model 4300 Turf Tiger is a large capacity, precision turf topdresser designed to provide maximum operating flexibility. The generous 3.2 cubic yard heaped capacity and 7500 lb. payload allow for fewer trips, saving valuable time. Optional extension sides further expand the capacity for lighter weight materials. The patented Saber Tooth wide spread beater provides spreading consistency and power to accommodate a variety of materials, wet or dry, coarse or fine. Alternate spreading attachments to suit a wide variety of applications include Dual Spinners, a 42-in. wide brush, and a rear cross conveyor. Spreading attachments sold separately.

www.millcreekmfg.com



Topdressers from Turfco

Go green with the Mete-R-Matic III and Mete-R-Matic XL, the ultimate machines in sports turf topdressing. Both machines allow you to just hook up and go. A patented Chevron belt delivers the most uniform application of any topdresser on the market whether its sand, compost, crumb rubber or calcined clays, regardless of moisture content. An eco-friendly, patented ground drive system assures uniform spread, even at varying speeds. And with no hydraulics, PTOs or engines, speed calibration is not required. The Mete-R-Matic III features a 23 cubic feet hopper capacity, and the Mete-R-Matic XL is three times this size at 60 cubic feet. The Mete-R-Matic series of topdressers are the only machines on the market with a 3-year warranty.

www.turfco.com



Toro Topdresser 2500

For maximum performance and power choose the Toro Topdresser 2500 - a self-contained, all-wheel drive unit towed by a Toro Workman or other utility vehicle. The 25 cubic foot capacity coupled with 8 mph topdressing speed will tackle the toughest topdressing jobs. The all-wheel drive ensures a consistent application rate on uneven terrain.

www.toro.com



Hats off to David Presnell of Gainesville GA Parks and Recreation and his crack-erjack turfgrass crew led by Charles Jarrard, supervisor Jimmy Savage and maintenance staffer Barry Brooks. We're delighted, but not suprised, that your

award-winning Bobby Gruhn Field at City Park Stadium features our Georgia-bred TifSport Bermudagrass. You keep it looking great for all the football, soccer and lacrosse games you host there. Well done, gentlemen!

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