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## turf maintenance equipment

an exact pattern, beyond the width of the box. Unlike dual spinners, you can easily change application rates, from a dusting to depths of up to an inch, just by changing the metering gate.

PROS - First, the unit is more stable because of its low center of gravity. Second, you can use it for light or heavy application rates reliably simply by adjusting the metering gate. Third, and very important, unlike the other two methods, Wide Spread Beater

units handle both dry and wet material. And they handle both coarse and fine material. Fourth, the conveyor runs the full width of the box, so bridging of compost and wet sand is not a problem. Finally, these machines love heavy application rates. CONS - It's not quite as precise as straight drop brush units and doesn't have quite as wide a spread pattern as dual spinner units have.

**Kinkead**: The choice of a "best" spreader technology boils down to the application. For example, if you need to do frequent, light topdressing, one of our models with twin-spinner design would most likely be the best equipment choice.

The downfall of most dual-spinner spreader is that they traditionally have been more focused on delivering light topdressing, as opposed to the heavier (up to 1/4-inch) layers that are typically applied to sports fields.

For sports fields, the success or failure of a topdressing program depends heavily on the accuracy of the application. Instead of the light, frequent topdressing done to golf greens, sports fields are typically going to be topdressed less frequently, with a heavier application rate, often applied after aerification. For these applications, a drop spreader is often preferable.

Because this type of topdressing often involves applying materials of varying consistencies and moisture contents, Turfco developed its chevron conveyor belt to accommodate these variables. Since material placement and application rate need to be consistently controlled for best results, the chevron conveyor belt and brush are driven by Turfco's ground-drive system, which synchronizes the material application rate with tow vehicle speed.

Contrast that to engine- or hydraulically driven brush-type topdressers, which rely on precise calibration between the hydraulic or PTO speed, and tow vehicle speed to ensure even materials application. With this type of spreader, if vehicle speed increases, the application thickness drops, since changes to vehicle speed do not affect spreader speed. As a result, they require a high degree of operator skill, as well as accurate machine set-up to get consistent coverage over the entire field.

Turf managers with a large number of sports



fields to topdress may need a level of productivity beyond what a drop-type spreader can offer, and for them, a topdresser/material handler with WideSpin technology would be a good choice. The dual-spinner topdressers are not only capable of efficiently delivering light topdressing applications, but they're also capable of applying heavy topdressing at up to 1/4-inch depth.

Turfco has chosen not to offer multi-spread beater designs, because beater-type spreaders simply don't offer the same consistency and control over material application rate and placement. They also do not offer the ability to apply materials such as calcined clays.

Clayton: "Drop style brush" topdressers are used for heavier applications. A brush-style topdresser can move a wider range of materials than a top dresser using twin spinner technology. For materials that clump together or are made up of irregular particles the "brush style" top dresser will break up the materials and spread them in a more consistent and uniform pattern.

"Dual Spinner" top dressers are used for more light and frequent applications. Spinners can spread at greater widths saving time when top dressing at light rates making less passes to cover the turf area.

Multi-spread beater or "beater drums" is older technology mostly used with topdressers that need a way to break up material before applying it. New technology has provided variable, high-speed drop style brushes (Finishing or Standard Brush), that when adjusted properly, break up material and apply it in one simple step.

In your opinion, what is the preferred technology for turf managers with regard to topdressing?

**Bentley**: Today the preferred technology would be a brush or a spinner because that is what the market is used to but as they see the obvious benefits of a beater design it will grow.

**Clayton**: There is no preferred technology as each provides a purpose depending on the desired result of the sportsturf manager and the environment in which he or she operates.

Musser: Our whole company depends on us understanding the needs of average people making

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difficult buying decisions in real world situations. Professional turf care owes a lot to the golf industry. Golf people have been setting the pace for a long time. And their preferences are well known. Greens keepers use straight drop brush machines for the tees and greens, and they like a dual spinner unit for the fairways. We make those models; good ones, with all the bells and whistles. And they're very popular. The golf industry has what they call "deep pockets." They can afford the biggest and the best, and usually that's what they look for.

But there are a whole lot of professionals out there getting paid to manage turf who are not in the golf industry. Their needs are different. Think about a person who takes care of a dozen or two fields for a municipal park system; or who manages the playing fields and grounds for a high school. Or the folks who contract their turf care services out to schools and parks.



The surface is healthier.

#### Affordable New Models with Breakthrough Technology



The revolutionary Millcreek Saber Tooth™ spreading system makes all other topdressers obsolete. Millcreek's new, lowpriced Turf Tiger™ Cub models, at under \$9K, bring the world's best topdressers within reach of any school or park budget.

#### Millcreek brings out the best in your turf

Most topdressers choke on wet, clumpy soil treatments found in real-world conditions. Millcreek's patented Saber Tooth technology solves that problem. Now you can spread both coarse or fine materials quickly and efficiently, no matter what their consistency.

Millcreek's Turf Tiger Cub provides a more consistent, healthier playing surface-healthier environmentally and for the players.

Millcreek's Cub Topdressers with Saber Tooth technology Model 3100-1.8 cu. yds. (heaped), Model 3200-2.3 cu. yds. (heaped)

#### Get the job done quickly!



Both Turf Tiger Cub models can spread wet or dry, coarse or fine materials.



Call (800) 311-1323 or visit www.MillcreekMfg.com Their problem is money. What they all face in common is tremendous pressure for excellent results. But they also have to meet those demands with less money in the budget all the time. We understand their situation. They need good, versatile products that are inexpensive and deliver a big bang for the buck. We've put a lot of time, money and effort into developing models that meet their needs.

Wide Spread Beater topdressers are simple and straight-forward to operate. The good ones are. Follow the directions and you'll get predictably good results.

Another very important factor is, that just like golf courses, your park or school system orders soil treatments in bulk. A huge load of, say, topsoil or compost will come in and be dumped at some convenient loading point. But unlike many golf courses, the loading point for a park system or a high school will be open to the elements. The material is probably going to get pretty soaked before it's applied. It may have even come in as a wet load. Plus, the material is sometimes already pretty clumpy. But you can't wait around for it to dry out. It has to be applied.

With the first two topdresser types, applying wet or clumpy material is a nightmare. Not so with a well designed Wide Spread Beater model. It'll break up those clumps like a knife through butter. You'll get a smooth, even, predictable pattern even if you're running your top dresser in the middle of a rainstorm.

When golf course precision isn't essential, when you need to work quickly, applying depths of sometimes 1" or 2" to fill coring holes and fill soil pockets to level the surface, when you have budget concerns a Wide Spread Beater unit does the trick.

Kinkead: There are a lot of companies trying to sell topdressers designed for golf or agricultural applications to sports turf managers. We've developed distinct topdresser models that have the right design features for each unique topdressing application, including sports turf topdressing. For these managers, a large-capacity, ground-driven, brush-type drop spreader with a chevron conveyor will best meet their needs. **ST** 

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## **"DIRT DOCTOR"**

The Dirt Doctor by Newstripe is an infield groomer that plows, pulverizes, drags, rolls, and broom finishes the field. Plus, with four models there is one Dirt Doctor available to fit your tractor and budget. Its modular hitch allows you to choose tow, 3-point hitch or both so you can use the machine with different tractors or ATV's. Newstripe, Inc/800-624-6706 For information, circle 096 or

see http://www.oners.ims.ca/5060-096

## **TORO ROTARY FOR FIELDS**

Toro introduced its Groundsmaster 3505-D, designed specifically for sports field applications. Unit is powered by a Kubota 35-hp

turbo-charged, liquid-cooled, three cylinder, diesel engine. The 2-wheel drive hydrostatic, closed loop transmission provides variable ground speed in both forward and reverse. And the three independent, Contour

Plus 27-in. decks can cut as low as onequarter of an inch. The Toro Company/800-803-8676 For information, circle 097 or see http://www.oners.ims.ca/5060-097

## "QUIK-TRAK" ROTARY MOWERS

ROTARY MUWERS John Deere continues to fill the gap between traditional zero-turn-radius mowers and walk-behinds with the new A-Series Quik-Trak mowers. Operators stand on a platform. The compact size also requires less trailer space, while the ZTR design offers superior maneuverability and trimming ability compared to large walk-behinds.

The three models are all powered by air-cooled, vertical shaft Kawasaki engines. An overheadvalve design offers improved fuel efficiency and lower sound levels, in addition to providing more horsepower and torque per cubic inch of displacement.

displacement. John Deere/800-537-8233 For information, circle 067 or see http://www.oners.ims.ca/5060-067





## field of the year



# STMA Complex of the Year is a "Surprise"

## Joe Kennedy III is winning turf manager

estled 40 miles northwest of Phoenix is one of the fastest growing communities in the state, Surprise. Its Surprise Recreation Campus, a 170-acre, \$73 million gem of recreational amenities, includes a 37 acre community park with a 5 acre lake, stocked for fishing; 13,500 square foot recre-

ation center; 23,000 square foot library; \$4 million dollar aquatics center; and the centerpiece, Surprise Stadium and its surrounding baseball features. This baseball complex is the spring training home and player development facility for both the Kansas City Royals and Texas Rangers.

### Irrigation system

The irrigation system was designed to accommodate the ever-increasing demand on potable water in the Southwest. We currently use non-potable water that fills our 5-acre lake. The system was designed to give the ability to use non-potable, potable, effluent, or a blend. The water is drawn from a 24-inch inlet with two 30hp pumps. This has the ability to provide 1500 gallons/minute. A 10-inch mainline loop supplies the water from the pump house around the Recreation Campus.

loop supplies the water from the pump house arou Each field then has a 3-inch mainline loop that provides water to 12 2-inch valves. Each field has a 3-inch master valve and the ability to isolate any of the 12 valves and still supply water to the rest of the field. Each playing field is equipped with an average of 90 sprin-

kler heads and (10) 1 1/2-inch quick couplers. We are a Hunter Irrigation facility with the following components:

\*Genesis III Computer Central system, hand-held radio capability

\* Campbell Scientific Weather station; 16 Genesis 60 station controllers

\* 17 Master valves; 18 Flow meters

\* 483 isolation valves; 353 automated scrubber valves

\* 185 quick couplers; 2,268 sprinkler heads
\* 73,000 total linear feet of sprinkler irrigation pipe

Sub-grade drainage systems

The Stadium field is a sand-based soil system. This is a USGA sand/peat blended field, with organic material added to the soil profile. The drainage system includes the standard extensive subsurface drainage system with a pump located approximately 30 feet beyond the left field foul pole. The field is gravity-drained into a pit, and then excess water within the stadium can then be pumped into a retention area on the west side of the facility approximately 440 yards away.

The Major League practice fields with a percolation rate of 12-18 inches per hour are designed similarly a geotextile layer separates the old sub-grade from the new sub-grade. Four- and six-inch drain tiles 20 feet on center run through the 4inch gravel layer and connect into a dry well outside of the center field fence. The central tile is equipped with flapper-style backflow valve to prevent backup onto the field during a flooding situation. The gravel layer is topped with 10 inches of USGA sand/peat blended sand. The minor league practice fields with a peculation rate of 18-20 inches per hour are similar with the only differences being an 8-inch sand cap with a larger gradation of sand and no peat mix.

#### Maintenance issues

The playing fields were designed to handle the high pH and salt content of the water used for irrigation by allowing us to easily flush the fields. This combined



with a demanding schedule of events contributed to serious maintenance issues. The sand based fields provided us with little or no organics this combined with the inability to retain moisture and nutrients made us an unhealthy turf environment, the perfect target for drought, fungus, and stress related disease. We discovered that the plant was unable to uptake the nutrients from our granular fertilizer applications due to the high filtration rate of the soil profile. Our soil analysis showed us "poor" growin the top 4-inches of infield using tiller in December. Use laser level on the infield, roll with 5-ton roller

\* Spike drag once daily and compact infield with laser gannon and roller every day during 45 game spring training season.

\* Spike drag every day and Re-level infield once every quarter throughout the rest of the year.

ing conditions while our drywells were abundantly fertile. We have since concentrated on our microbial environment and with the help of a fertigation system and foliar applications we have improved our organic profile.

## **Maintenance** Program

Fertilization (Granular) \* 10-2-8 Organic (Nature Safe)once every 6-8 weeks (Jan-March) \* 8-3-5 Organic (Nature Safe)- once every 6-8 weeks (April- September) \* 5-6-6 Organic (Nature Safe)- once

every 6-8 weeks (Oct- Dec) Fertilization (Liquid) \* Bi-weekly program - carbohy-

drates, complete amino acids, mature proteins, Micronutrients, biostimulants, and humic acid.

\* Liquid Organic fertilizer blended according to soil and tissue analysis for N-P-K and minor nutrients

\* Foliar applications of iron and urea as needed through winter season.

\* N-phuric acid to aid in pH control.

Weed Control

\* Barricade pre-emergent for POA control.

\* Post-emergent for broadleaf weeds Fungicide/Insecticides

\* Preventive applications February through October, curative applications when disease is present fungicides used vary with season, matched to degree of potential susceptibility

\* As needed if insects present

Wetting Agent

\* Used to aid water efficient for irrigation, overseeding germination, and syringing

Mowing

\* Height of cut maintained at 7/8 "-1" Through Spring Training Season, 5/8" through the summer months.

\* Frequency - every day during Spring Training Season, every other day through out the rest of the year. Aerification

\* Core - once in spring, twice in fall, if possible - drag in cores and top dress 1/16-inch

\* Slice - each month during playing season - topdress if possible Infield Maintenance

\* Incorporate 50 lbs. raw Stabilizer





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For additional information see your Rain Bird distributor, or visit **www.rainbird.com.** 



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    - bright lines in just one pass
    - Continuous Paint Agitation
      Will not damage turf or roots





NewRider 2000

## ...NewRiders

- 30 & 55 gallon models
- Built in purge systems
- Bi-Directional spray heads
- 5 speed & hydrostatic drives

## Field Maintenance



## field of the year



- \* Cover with 1/4-inch soil conditioner
- \* Screen infield with nail drags and drag mats for pre-game preparations
- \* 3rd & 6th inning drags using 5-2-foot by 8-foot stiff mat drags and change bases each time.
- \* Rake and sweep out edges after each game use power broom if necessary.
- \* Blow out edges with hose once a month.
- \* Edge field every other week.
- \* Mound and Homeplate Maintenance
- \* Recondition mounds and homeplates to MLB specs every quarter.
- \* Remove daily excess clay, clean, and replace with Hilltopper clay and compact. Broom finish.
- \* Add soil conditioner if needed.
- \* Clean off excess clay and soil conditioner every week and replace with new.
- \* Re-level homeplate area with laser gannon every week during season and as needed throughout the rest of the year.
- Miscellaneous
- \* Conduct water analysis twice per year and soil and

tissue analysis quarterly

- \* Overseed in fall using 34,000 pounds Chaparral perennial ryegrass seed
- \* Pre-germinate seed during Spring Training season for use as needed
- \* Use practice fields as sod farms as needed.

## **Surprise Recreation Campus**

## Notable details

- \* Both the clubhouse entrances and batting cages sit on the main concourse
- \* Below-grade playing field offers arriving fans a view straight to the outfield
- \* Outfield clubhouses provide direct access to the stadium by tunnel
- \* Jumbotron used for movie nights in the off-season Site
- \* 124 acres
- \* 7 practice fields with lights
- \* 5 practice fields without lights
- \* 8 acres of multipurpose soccer/football fields w/ lights





- \* 2 football fields (used for agilities)
- \* 1 bunting field (artificial turf)
- \* 2 outfield clubhouses
- \* 8 covered batting tunnels
- \* 8 open batting tunnels
- \* 32 pitching practice mounds and homeplates
- \* Library, aquatic center, five-acre lake
- \* 1,000 paved parking spaces
- \* 800 grass parking spaces

## Dimensions

- Total Square Feet: 516,399 square feet
- Ballpark: 409,292 square feet
- \* Royals Clubhouse: 53,569 square feet
- \* Rangers Clubhouse: 53,538 square feet
- \* 29-foot wide main concourse
- Ballpark capacity
- 10,500 seats
- 7,000 lower bowl armchairs
- \* 3,000 lower bowl outfield berm seats
- \* 500 upper deck seats with 2 adjoining
- \* Party decks including 6 private suites
- Ballpark amenities, including clubhouses
- \* 40 restrooms (140 toilets, 134 lavatories)
- \* 24 concession points-of-sale in ballpark
- \* 8 concession points-of-sale in center field
- \* 1,000 square feet of retail
- Ballpark materials
- \* 12,756 cubic yards of concrete
- \* 580 tons of steel
- \* 1.5 million square feet of sod

- \* 155,000 Linear Feet of field drainage pipe
- \* 65,000 tons of root zone sand
- \* 9,750 total tons of pea gravel
- \* 5,200 tons of Stabilizer infield mix
- \* 525 tons of Hilltopper mound clay
- \* 5,900 tons of warning track mix
- \* 38 total acres of sports related turf areas
- \* 17.57 total acres of common turf areas, "non-athletic use turf"
- \* 45.94 acres of decomposed granite landscape area
- \* 847 shrubs
- \* 853 trees
- \* 347,600-gallon swimming pool w/ 2 water slides and play structures
- Playing field
- \* Bull's-eye Bermuda grass
- \* Left Field Line: 350 feet
- \* Left Field Power Alley: 379 feet
- \* Center Field: 400 feet
- \* Right Field Line: 350 feet
- \* Right Field Power Alley: 379 feet
- \* Fence: 8 feet
- Project team
- \* Ballpark Architect: HOK Sport
- Design Build Entity: Barton Mallow, HOK Design Build ST

This information edited from materials submitted to STMA by Joe Kennedy III, Surprise Recreation Campus.

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wrote Johnson Bowie, Associate AD, Drexel University, Philadelphia, PA

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around the grounds

# The Best Plants You're Not Using

## BY JESSIE ATCHISON

omething's missing from your landscape plantings, and you might not even know it. While the main focus of sports facilities is often on turf, the areas surrounding playing fields are important, too. Flowerbeds make the facility seem special, more colorful, more welcoming, more upscale, and a more pleasant place to spend time. While common plants like impatiens, petunias and geraniums can always be relied upon to provide high-impact color in these settings, there are many

more unique plants available that can really set landscape plantings apart. The best part is that an exotic look doesn't have to mean more work for maintenance crews. Here are some exceptional, easycare plants that you may not be using, but should consider trying.

### Foliage

Not all plants need flowers to get attention. Colorful, eye-catching annual foliage is a major trend in horticulture right now. Used as an accent for flowerfilled landscape beds or containers or even planted as a focal point, great foliage plants can make a big statement, with the added bonus that "deadheading" is not required.

Alternanthera (A. dentata) is a striking foliage plant with a tropical look. Purple Knight is a relatively new variety in this species with deep purple to almost black foliage and an upright, spreading habit. It works well in mixed containers, where the plants will arch dramatically over the edges of the pot, and it's stunning in mass plantings. In landscape beds, each plant grows 16 to 20 in. tall and spreads up to 3 ft., almost forming a shrub of dark leaves. Purple Knight performs well in full sun to light shade; the foliage is darkest in full sun.



Dichondra is a high-impact, long-performance trailing plant that works well in hanging baskets or containers, or even as an attractive annual groundcover. Two varieties, Silver Falls (D. argentea) and Emerald Falls (D. repens), offer excellent color and texture. Silver Falls is distinguished by rounded, fan-shaped, fuzzy silver foliage on silver stems. It trails or spreads 3 to 4 ft. long in a single season. Emerald Falls has a slightly different, more rounded leaf shape and creates denser, tighter plants. It grows fuller than Silver Falls but not quite as long, trailing about 3 ft. and adding subtle green color to plantings. Both varieties grow about 2 in. tall in landscape beds, forming a lush carpet of foliage, and both are very heat and drought tolerant.

Plant in full sun to partial shade.

Ornamental Millet is a showy, people-pleasing version of an avian favorite; birds love the fluffy seed plumes. Purple Majesty (Pennisetum glaucum) is a breeding breakthrough that won the prestigious All-America Selections Gold Medal for its outstanding garden performance. It grows 3 to 5 ft. tall in the landscape, where it makes an excellent backdrop for lower-growing varieties. The plants begin green, but turn a deep mahogany-purple as they mature outside in full sun. To achieve the most impact, plants should still be green and not yet have seed plumes when they are installed. Because Purple Majesty is a hybrid, it will not re-seed in the landscape.

#### Flowers

Of course, there's nothing quite like a bed of beautiful blooms to spice up a landscape. Angelonia is great for adding height to beds and borders, growing 18 to 24 in. tall. The AngelMist series (A. angustifolia) grows tall spires, each covered with small, snapdragon-like blooms. Available in several colors (including shades of deep plum, purple and lavender to white and pink), AngelMist thrives in a wide range of environmental conditions, making it a versatile addition to almost any landscape. Plant in full sun for best results.

Begonias have been popular in landscapes for years, but there's a next generation alternative to the standard, upright fibrous or "wax" begonias commonly plant-

