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Affordable Turf Color

Joe Lara, Product Manager, Becker Underwood

First drought conditions. Then severe tropical storms with too much precipitation. Now predictions of severe winter weather. Turf professionals agree there has been no shortage of environmental challenges from Mother Nature.

Experienced golf course superintendents bring a wealth of agronomic knowledge and proven techniques to successfully manage through these challenges to create enjoyable experiences on the golf course.

One technique that has caught the eye of many turf managers is the use of permanent colorants. Superintendents are successfully integrating them into their management programs with greater frequency, ranging from monthly greens fertility and pest protection programs, to broad course coverage for improved turf quality and visual appeal.

Throughout the US, specifically in the southern regions, many superintendents have been exploring turf colorants as both a complement and an alternative to overseeding. What the early adopters are finding is that turf colorants are helping stretch their labor and input costs, and reduce or eliminate course closure time ... all without sacrificing playability and visual appeal.

Transition HC was created to meet the needs of superintendents who want to achieve high quality turf color throughout the fall and spring transition periods.

Last fall, innovative superintendent David Yanez (The Grand Golf Club in San Diego, CA) wanted a better turf colorant that would produce a more natural-looking green color to complement his transition program. He evaluated other products, but was dissatisfied with the blue color they left on turf. Yanez implemented a program with Transition HC in lieu of overseeding, and in the process created a regional buzz among other superintendents.

As his warm season Bermuda turfgrass moved into dormancy, Yanez began making Transition HC applications at a light rate to improve color uniformity and appearance. Over the course of séveral weeks, he made follow-up applications at increasingly higher rates.

When the turf went fully dormant, Yanez made a few touch up applications with Transition HC. Not only did the transition look completely natural, the untreated rough areas provided a striking color contrast to the treated fairways, which was exactly what Yanez wanted. And the applications helped him meet his objective to set up the warm-season turfgrass for better spring emergence without the competing cool season overseed.

Turf colorants like Transition HC can be used in a variety of ways to meet the aesthetic and agronomic objectives of turf professionals. Superintendents have discovered a number of ways to use Transition HC on their course.

Overseeding Complement
Disguise mottling and uneven growth for uniform turf color with applications throughout the fall and winter growing seasons

Alternative to Overseeding
Reallocate labor and input money spent on overseeding programs to other pressing areas of course management. Eliminate fall overseeding to reduce competition from cool season turf, and improve spring emergence of warm-season varieties.

Affordable 30-Day Color
Create a custom color look on any golf course. Monthly applications of Transition HC are easy on the budget and provide the timing and flexibility needed to succeed on a budget.

Becker Underwood has been a trusted manufacturer of high quality professional turf management products for over 30 years. Creators of the industry-leading Green Lawnger® turf colorant, superintendents and professional turf managers recognize the value, quality, and consistent performance delivered in every Becker Underwood branded product.

For more information and resources about turf colorants, visit www.beckerunderwood.com.

A SMOOTH TRANSITION

TRANSITION HC

HIGH CONCENTRATE DARK TURF COLORANT

Transition HC colorant provides economical, 30-day color to help manage turf color throughout fall and spring transitions of overseeding programs. Support the Wee One Foundation with your Transition HC purchase, find out more at **beckerunderwood.com**.

Scan to learn more.

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BECKER UNDERWOOD
Inventing the Future

BEST SAND GIVES BACK TO THE COMMUNITY THROUGH MINERALS & ENVIRONMENTAL EDUCATION.

The Fairmount Minerals and Best Sand culture of sustainable development, including educational outreach, has deep roots. More than 750 employees bring their motto of 'Do Good. Do Well.' to life with a sustainable development mission of People, Planet, and Prosperity. Every decision is viewed through the lens of this mission statement.

When a company commits to contributing to the world's social, economic, and environmental needs, the company can realize greater performance. The spectrum of sustainable development—from waste elimination to energy efficiency to wellness initiatives and more—is vital to the Fairmount Minerals determination to reduce the global environmental footprint.

Public outreach, including regular volunteer activities and education, is a priority for Best Sand family members. More than 1,600 community residents attended the Best Sand Party in the Pit mine open house and zero-waste event in Chardon, Ohio, recently. The 65 fifth graders from Grant Elementary in Willoughby, Ohio, toured the mine and learned about sand mining. The students also toured the nearby Walter C. Best Wildlife Preserve. The family of Walter Best, founder of Best Sand, a Fairmount Minerals company, donated the property to the Geauga Park District.

"Our Best Sand team looks forward to reaching out to the community and being an educational resource," said Cristine Lewis, Ohio regional sustainable development coordinator for Fairmount Minerals. "This is the 'people' part of our mission, and we're all proud to be recognized by an environmental steward in mining."

That recognition includes the most recent honor. Best Sand earned an Honorable Mention for Public Outreach at the Interstate Mining Compact Commission (IMCC) 2012 Minerals Education Awards in Asheville, North Carolina, May 1. The prestigious award recognizes Best Sand for its "dedication to minerals and environmental education." The Ohio Department of Natural Resources nominated Best Sand for the award.

"Best Sand's public outreach has helped the community better understand mineral production, environmental controls, and uses in society," said Gregory E. Conrad, IMCC's executive director. "The facility's outreach represents the educational commitment we encourage in the mining industry."

The Best Sand mine produces sand that is trusted around the world. A high number of leading golf courses, for example, choose this sand whether for:

- a new course
- renovation work or
- maintaining existing bunkers.

The high-quality sand offers firm ball support and consistency. The company crushes larger silica stones to create this very angular, premium bunker sand.

Best Sand is the right choice.

"Best Sand's public outreach has helped the community better understand mineral production, environmental controls, and uses in society."

For more information, please visit: www.fairmountminerals.com/sports.

GREAT GOLF DEMANDS THE BEST SAND

At Fairmount Sports + Recreation, better minerals for better play are all we think about... like Best Sand®, the long-respected choice in golf course sands. Whether you're choosing bunker sand for a new course, renovation work, or maintaining existing bunkers we can supply you with unsurpassed quality and playability. Our bunker sands have been used in more than 400 of the top golf courses around the world.

Tour Grade® 535

This high-quality bunker sand delivers firm ball support and consistency, season after season. An off-white color reduces glare and gives Tour Grade 535 a natural, premium look. Its consistent size, texture, and quality ensure long-term playability and quick draining to eliminate puddles and crusting.

- Sub-angular grain shape conforms and adheres to bunker slopes
- Sized to provide the firmest ball support
- Non-crusting surface requires less raking
- Washed to remove impurities and organic material
- Meets USGA Specifications

Tour Grade® Signature Series Bunker Sand

Manufactured by crushing silica stones, this angular bunker sand adheres to the steepest bunker faces giving you the highest penetrometer reading for stable ball support, while still allowing for excellent playability. Superior quality, consistent texture, and white in color, Tour Grade Signature delivers the consistency you need, by providing the look and standard of play your golfers demand year after year.

- Sized to provide the firmest ball support
- Quick draining to eliminate puddles
- Non-crusting surface requires less raking
- Washed to remove impurities and organic material
- Meets USGA Specifications

A blend of Tour Grade 535 and Tour Grade Signature Series is also readily available.

FAIRMOUNT
Sports + Recreation

A Fairmount Minerals Company

www.fairmountminerals.com/sports

How do bunker liners save labor dollars and improve playing conditions?

The use of bunker liners has increased for two main reasons. Bunker liners save money by reducing the daily cost of bunker maintenance and they improve playing conditions by keeping bunker sand more consistent and contamination free.

Labor Savings

Maintaining bunkers can sometimes be 15-20 percent of the daily labor costs on a golf course. This number can increase after rain events due to the need to repair washouts, pump water from bunkers due to clogged drain lines, and to eliminate silt contamination.

Additionally, the playing conditions in the bunkers following a rain event may not return to normal for several days until the sand dries out.

Generally, washouts occur in bunkers when sand is displaced by the water flowing along the floor of the bunker as it travels to the drain lines. When a bunker liner is installed, it creates a separation layer between the bunker subgrade and the bunker sand.

During rain events, water passes through the sand and flows into the bunker liner where it can travel into the drainage system. This keeps the sand protected from washouts, free from subgrade contamination and reduces or eliminates the need to pump bunkers. As a result, valuable labor dollars can be focused on other areas of the golf course.

By using a product like SandMat, it's not uncommon to save enough money in labor to actually pay for the cost of the liner within three years. That's a very good return on the investment.

Improved Playing Conditions

When the bunker sand stays clean and drain lines are free of subgrade contamination, the consistency of the sand remains the same for a long time. Even after rain events, the sand remains playable without the need to cultivate the sand. Simply grooming the bunkers is all that is required to maintain ideal playing conditions.

Product and Installation Considerations

There are various types of bunker liners on the market but the most cost effective product for sand stabilization, drainage flow and contamination prevention is a high lofted geotextile liner like SandMat. Several grades of products are available to meet site slope and design considerations. These geotextile products can be installed easily without the need for specialized equipment and can be installed at any time of the year without weather limitations.

When considering the use of a geotextile bunker liner, look for a few key things:

1. Roll width of the product. A wider roll will install faster and have fewer seams, require fewer staples and have less waste.

2. Staple or fastener options-consider using a high quality fastener to secure your liner to the subgrade. Galvanized staples are going to last much longer than ordinary sod staples.

3. Edge detail-what is the final look of the bunker edge and how will you be maintaining it? Is the lip grassed over or is there an exposed soil edge? Terminating your liner so it works with the edge design is an important consideration. Ask the product manager for ideas on edge details.

4. Machine raking vs. hand raking? It's important to realize that the sand condition in newly lined bunkers is going to be significantly different than before. Maintenance practices should be different as well. The use of a geotextile bunker liner will help eliminate the need to cultivate the sand to keep it playing consistently. Since the sand doesn't move after rain events, the need to rake as often is reduced. Most would agree that hand raking is the preferred method of maintaining a bunker, but as long as the cultivation teeth are removed from mechanical rakes and the sand depths are monitored regularly, mechanical raking is a fast and safe option.

5. Ask questions. Call the product manager and talk about your current challenges, maintenance practices and project consideration requirements. When installed and maintained properly, bunker liners will be a good investment for both labor savings and improved sand conditions for a long time.

Bunker sand and the cost to get it to your course is expensive. Protect your investment, maintain ideal conditions and save labor with a bunker liner like SandMat.

SandMat – the right tool for the job

SandMat is a revolutionary product that has been engineered for superior drainage and erosion control. Used by high profile courses around the world, **SandMat** is the professional's choice for bunker lining.

- **Chosen by premier Golf courses worldwide**
- **Improve drainage**
- **Reduce bunker maintenance**
- **Extra wide for faster installation**
- **Saves labor**
- **Saves raking**

Purchase a Trailer Load of SandMat and receive a **FREE** 8 Piece Cordless Hitachi Power Tool Kit including:

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- Cordless **Reciprocating Saw** with tool-less blade changing system (CR18DMR)
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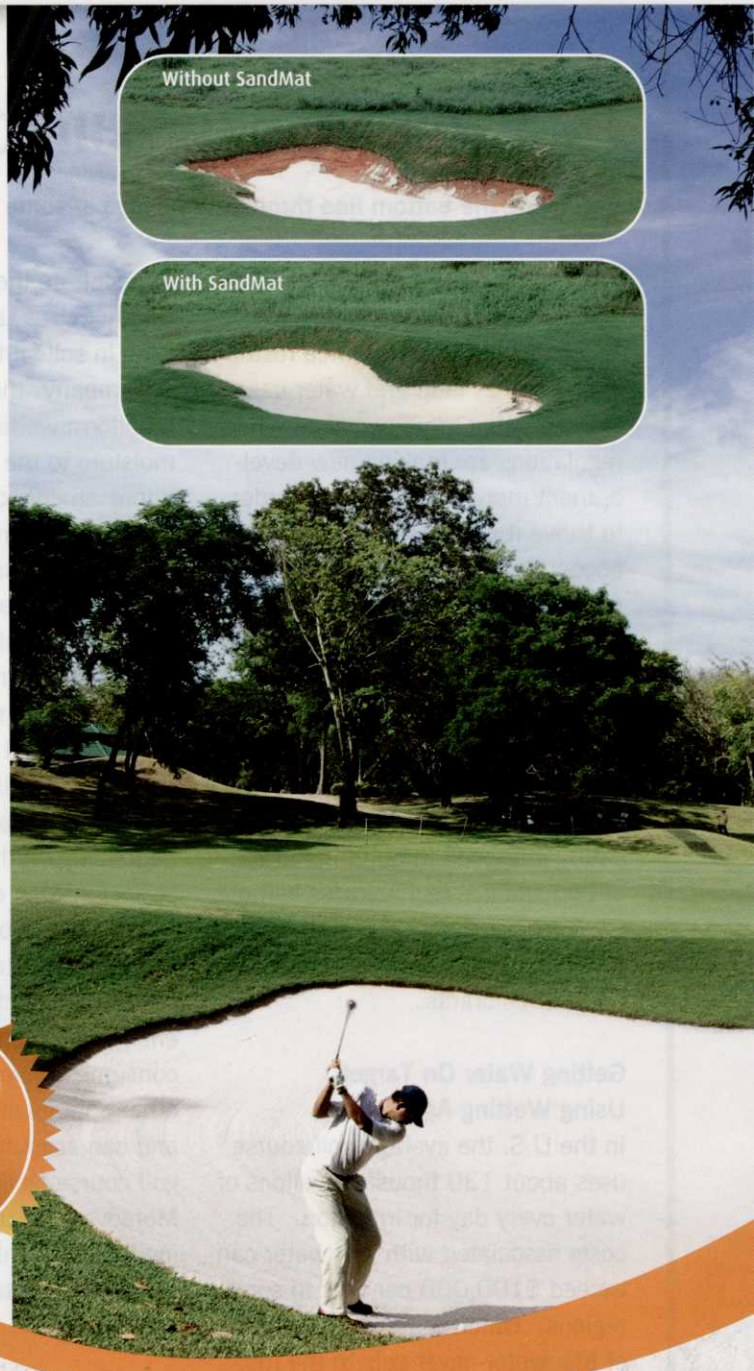

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Can you save 'green' by being green?

Improving the bottom line through the usage of some easy-to-implement sustainable solutions

Sustainability is a hot topic in Golf Course Management these days. Resource restrictions such as land and water use are becoming more prevalent while regulations are making new development more prohibitive. In order to thrive it is necessary to not only accept this new working environment but embrace the challenge of seeking out new methods to use resources more efficiently.

The GCSAA+ has identified four key sustainability focus areas, three of which (Water Use, Energy Use, Pollution Prevention) can be significantly improved through the usage of two additive technologies without the need for significant capital investment – namely wetting agents and turf colorants.

Getting Water On Target Using Wetting Agents

In the U.S. the average golf course uses about 130 thousand gallons of water every day for irrigation. The costs associated with this water can exceed $100,000 per year in some regions. Unfortunately a large part of this water never gets to the rootzone and is wasted as run-off due to a hydrophobic soil layer; whereas in other areas this water will pool resulting in overwatering which in turn can result in disease formation and additional fungicide usage.

"Quite often the surface tension of water simply isn't low enough to penetrate the soil profile" says Randy Petrea, a scientist specializing in soil surfactants at Milliken & Company "the key is to develop a uniform wetting front to deliver moisture to the rootzone; such improvements can reduce water usage significantly"

One of the most exciting recent developments according to Mr. Petrea is the introduction of multi-branched wetting agents, "Over the past 5 years the versatility of multi-branched wetting agents have provided the ability to tailor a surfactant that can hold water or depending on the configuration a surfactant that can move water uniformly throughout the soil profile".

Reduced water usage also has other cost benefits such as less energy and labor. Water pumping consumes more energy than any other equipment on a golf course and can account for 50% of a golf course facility's energy usage. Moreover, the use of hand watering is a labor intensive activity that can be eliminated through effective watering.

Getting More From Less With Turf Colorants

Consumption of fertilizers, pesticides, herbicides, and fungicides can quite often total multiple tons a year for a typical golf course. If overused these additives have detrimental effects, both to the turf and to the bottom line.

Uniform coverage is essential in these applications and usage of a colorant as a spray pattern indicator (SPI) is a simple method of identifying spray areas. Many types of SPIs are available but staining is best avoided by using a 100% non-ionic, polymeric colorant such as the industry leading Blazon® product.

Another growing application of turf colorants is for turf enhancement through coverage of missing chlorophyll color or dormant or discolored grasses for either spot treatment or improving appearance of a course later into winter.

The result is reduced maintenance cost for winter relative to over-seeding, and a rapid rebound from dormancy as there is no competition from temporary winter grasses. From a sustainability perspective this is a preferred solution to over-seeding as less water, fertilizer, and pesticides are needed for treatment.

Final Thoughts

Every golf course faces it's own unique set of challenges. A number of wetting agent and colorant variations are available and it is important to work with suppliers to identify those products that are ideally suited to your application needs.

Green is more than just a color

With a 100-year tradition of sustainability leadership, Milliken not only delivers the colorants, turf paints and spray pattern indicators with the performance you've come to expect, our innovative products can help you have less impact on the environment and more impact on the beauty of your facility.

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Evergreen Viva™
Green Turf Paint

Milliken®
Aquarius®
Soil Wetting Agents

Milliken®
Mirage®
Lake and Pond Colorants

millikenturf.com

Improve Water Quality on Your Course

From irrigation ponds to the club house, Otterbine offers a variety of products and services to support the needs of the golf market. Otterbine surface and subsurface aeration systems provide the industry's highest independently tested oxygen transfer and pumping rates to maximize the consumption of excess nutrients and naturally treat the causes of poor water quality, leaving ponds healthy and clean.

Otterbine Aeration Systems provide solutions to improving water quality on golf courses worldwide.

Maintain Irrigation Ponds

Irrigation ponds left unmanaged can lose 1-5 inches or (2.5-5 cm) of storage capacity a year due to sludge build-up, let alone the damage it can cause with clogged pumps and irrigations systems. High nutrient levels in irrigation ponds can also lead toward turf damage, while poor water quality will often lead toward foul odors, fish kills, unsightly aquatic algae and weeds. The costs and time associated to repair damage can add up quick affecting your bottom line. Otterbine offers both surface and subsurface aeration systems providing options to the superintendent and the design of the course.

Manage Effluent & Reclaimed Water

As the demands on water resources continue to escalate, along with the costs of obtaining potable water - many are considering new ways to acquire sources of irrigation water. The high nutrient levels of effluent water must be treated prior to use in irrigation and the impressive pumping and oxygen transfer rates of Otterbine's High Volume and Air Flo 2 systems are an ideal match for these ponds. Otterbine's Sunburst, Gemini and Saturn units will also provide plenty of aeration with the added benefit of a surface spray for aesthetic enhancement.

Control Algae, Odors & Fish Kills

Introducing oxygen into the water column is the most natural solution to pond and lake management and effectively controls algae, aquatic weeds, and foul odors leaving ponds and lakes healthy and clean.

Sustain Natural Habitats

Aeration is able to consume excess nutrients that are harmful to ponds and their inhabitants. Providing an environmentally friendly solution to improving water quality, the use of Otterbine aeration systems supports healthy aquatic habitats for fish and wildlife, while creating naturalized landscapes to be enjoyed by members and guests.

History Of Otterbine

In the late 1970's Chuck and Terry Barebo recognized the need for aeration equipment beyond aquaculture and industrial applications, and Otterbine was introduced to golf. Partnering with family businesses and equipment houses throughout the U.S. and internationally, friendships and alliances have evolved over the past 40 years to make Otterbine the leading aeration and fountain product found on golf courses throughout the world.

Otterbine's on the Golf Course

For more information and testimonials on how Otterbine's benefit the golf industry visit us online at: www.otterbine.com/golf