# Bunker Solutions -

(Continued from Page 6)

#### **The Process**

The process can be used in new construction or in existing bunkers easily. Best of all, it can be done at your own pace and it is stored in a 55 gallon drum. The process is as follows:

1) Remove existing sand in the area that you want to treat and scarify the surface. (Figure 2)

2) Saturate the surface to the point of runoff. (Figure 3)

 Allow the product to penetrate and reapply again to the point of runoff.

4) Apply a thin coat of bunker sand to stick to the surface or reinstall the bunker sand to its proper depths. (Figure 4)

5) The product will cure in 24-48 hours leaving you with solid subgrade under the bunker sand.

This is a very simple process that produces long-term results. If you have a sandy loam or sandy clay, penetration of the product should not be a problem as long as the soil is not waterlogged. If the soil is predominantly heavy compacted clay, the hardened matrix can be made out of a thin layer of existing bunker sand treated with the product in the same manner. Water helps activate this product so normal irrigation can continue in this bunker and rain will actually help this process as long as it doesn't wash the product away.

#### About the Product

One of the things that attracted me to this product is the safe track record the Klingstone has in environmental uses. It has been used by the Army Corps of Engineers in Florida to repair seawalls, hillside stabilization in Colorado by the Colorado D.O.T., and is currently being used for aggregate trail stabilization in state parks to make them ADA compliant. Klingstone is liquid polyurethane that reacts with water to expand into the soil pore space and bind together the soil colloids. The cured product is inert and will not harm the environment. Since it is polyurethane, it is resistant to bio or photo degradation. When applied properly, this product will remain in the soil for an indefinite period of time. We have had our Klingstone in place for six seasons and have had to retreat very few areas.

For large applications, we found a dedicated sprayer with a centrifugal or roller type pump works the best. If a small area





is being treated, a watering can works just fine.

#### **Other Uses**

Currently we are testing Klingstone to aid in solidifying aggregate cart path rock on slopes that are prone to erosion. By using a higher viscosity material and an aggregate material without 'fines' in them, we have found that a 3-4" solid path can be formed.

Additionally, we are combining two different Klingstone products to solidify the bunker sand in our target green bunkers at our practice facility. Currently, these bunkers are maintained like our oncourse bunkers but are a maintenance nightmare to repair following a big rain. Upon completion, we are hoping this treatment will provide an on-course quality look to the bunkers while being maintenance free in the future.

#### **Success of the Product**

We have had the Klingstone in our bunkers now for six seasons and the only place we have had problems with the

(Continued on Page 16)

# <u>It's All About Me</u> **Got an Idea, Get a Patent!** What Is a Patent?

A patent for an invention is the grant of a property right to the inventor, issued by the United States Patent and Trademark Office. Generally, the term of a new patent is 20 years from the date on which the application for the patent was filed in the United States or, in special cases, from the date an earlier related application was filed, subject to the payment of maintenance fees. U.S. patent grants are effective only within the United States, U.S. territories, and U.S. possessions. Under certain circumstances, patent term extensions or adjustments may be available.

The right conferred by the patent grant is, in the language of the statute and of the grant itself, "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States or "importing" the invention into the United States. What is granted is not the right to make, use, offer for sale, sell or import, but the right to exclude others from making, using, offering for sale, selling or importing the invention. Once a patent is issued, the patentee must enforce the patent without aid of the USPTO.

#### **Types of Patents**

There are three types of patents: Utility patents may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or compositions of matters, or any new useful improvement thereof;

The United States Patent And Trademark Office

Congress established the United States Patent and Trademark Office (USPTO or Office) to issue patents on behalf of the government. The Patent Office as a distinct bureau dates from the year 1802 when a separate official in the Department of State who became known as "Superintendent of Patents" was placed in charge of patents. The revision of the patent laws enacted in 1836 reorganized the Patent Office and designated the official in charge as Commissioner of Patents. The Patent Office remained in the Department of State until 1849 when it was transferred to the Department of Interior. In 1925 it was transferred to the Department of Commerce where it is today. In 1975, the name of the Patent Office was changed to the Patent and Trademark Office.

The United States Patent and Trademark Office administers the patent laws as they relate to the granting of patents for inventions, and performs other duties relating to patents. It examines applications for patents to determine if the applicants are entitled to patents under the law and grants the patents when they are so entitled; it publishes issued patents, most patent applications filed on or after November 29, 2000, at 18 months from the earliest filing date, and various publications concerning patents; records assignments of patents; maintains a search room for the use of the public to examine issued patents and records, and supplies copies of records and other papers, and the like. Similar functions are performed with respect to the registration of trademarks. The USPTO has no jurisdiction over questions of infringement and the enforcement of patents, nor over matters relating to the promotion or utilization of patents or inventions.

#### What Can Be Patented?

The patent law specifies the general field of subject matter that can be patented and the conditions under which a patent may be obtained.

In the language of the statute, any person who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and

useful improvement thereof, may obtain a patent," subject to the conditions and requirements of the law. The word "process" is defined by law as a process, act or method, and primarily includes industrial or technical processes. The term "machine" used in the statute needs no explanation. The term "manufacture" refers to articles that are made, and includes all manufactured articles. The term "composition of matter" relates to chemical compositions and may include mixtures of ingredients as well as new chemical compounds. These classes of subject matter taken together include practically everything that is made by man and the processes for making the products.

The Atomic Energy Act of 1954 excludes the patenting of inventions useful solely in the utilization of special nuclear material or atomic energy for atomic weapons.

The patent law specifies that the subject matter must be "useful." The term "useful" in this connection refers to the condition that the subject matter has a useful purpose and also includes operativeness, that is, a machine which will not operate to perform the intended purpose would not be called useful, and therefore would not be granted a patent.

Interpretations of the statute by the courts have defined the limits of the field of subject matter that can be patented, thus it has been held that the laws of nature, physical phenomena and abstract ideas are not patentable subject matter. (Continued on Page 13)



## Patents -

(Continued from Page 12)

A patent cannot be obtained upon a mere idea or suggestion. The patent is granted upon the new machine, manufacture, etc., as has been said, and not upon the idea or suggestion of the new machine. A complete description of the actual machine or other subject matter for which a patent is sought is required.

#### Who May Apply For A Patent?

According to the law, only the inventor may apply for a patent, with certain exceptions. If a person who is not the inventor should apply for a patent, the patent, if it were obtained, would be invalid. The person applying in such a case who falsely states that he/she is the inventor would also be subject to criminal penalties. If the inventor is dead, the application may be made by legal representatives, that is, the administrator or executor of the estate. If the inventor is insane, the application for patent may be made by a guardian. If an inventor refuses to apply for a patent or cannot be found, a joint inventor or, if there is no joint inventor available, a person having a proprietary interest in the invention may apply on behalf of the non-signing inventor.

If two or more persons make an invention jointly, they apply for a patent as joint inventors. A person who makes only a financial contribution is not a joint inventor and cannot be joined in the application as an inventor. It is possible to correct an innocent mistake in erroneously omitting an inventor or in erroneously naming a person as an inventor.

Officers and employees of the United States Patent and Trademark Office are prohibited by law from applying for a patent or acquiring, directly or indirectly, except by inheritance or bequest, any patent or any right or interest in any patent.

Non-Provisional Application for a Patent

A non-provisional application for a patent is made to the Commissioner for Patents and includes:

(1) A written document which comprises a specification (description and claims), and an oath or declaration;

(2) A drawing in those cases in which a drawing is necessary; and

(3) The filing fee. Applicant must determine that small entity status is appropriate before making an assertion of entitlement to small entity status and paying a small entity fee. Fees change each October. The fee schedule is posted on the USPTO Web site.

All application papers must be in the English language or a translation into the English language will be required along with the required fee set forth in 37 CFR 1.17(i). All application papers must be legibly written on only one side either by a typewriter or mechanical printer in permanent dark ink or its equivalent in portrait orientation on flexible, strong, smooth, non-shiny, durable and white paper.

The papers must be presented in a form having sufficient clarity and contrast between the paper and the writing to

Attorneys and Agents

The preparation of an application for patent and the conducting of the proceedings in the United States Patent and Trademark Office (USPTO or Office) to obtain the patent is an undertaking requiring the knowledge of patent law and rules and Office practice and procedures, as well as knowledge of the scientific or technical matters involved in the particular invention.

(Continued on Page 15)

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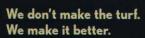
# WHAT OTHER FUNGICIDES DREAM OF BEING WHEN THEY GROW UP.



There's a reason superintendents who've tried new Insignia\* fungicide from BASF are calling it "The Outperformer." It's because Insignia exceeds even their highest expectations for a strobilurin-based fungicide. Insignia serves as a foundation product for reliable disease control. It controls an exceptionally broad spectrum of turf diseases—far broader than Compass\*; for instance—offering dependable control of anthracnose, brown patch, gray leaf spot and many others, without flaring other diseases like dollar spot, the way Heritage\* does. That means you won't aggravate one problem as you solve another. Best of all, Insignia controls key diseases for up to 28 days, reducing your labor and materials costs and enhancing your peace of mind. Contact your distributor or your BASF Professional Turf Sales Representative, call (800) 545-9525 or visit www.turffacts.com to learn more about how new Insignia\* fungicide can outperform on your course.

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## Patents-

(Continued from Page 13)

Inventors may prepare their own applications and file them in the USPTO and conduct the proceedings themselves, but unless they are familiar with these matters or study them in detail, they may get into considerable difficulty. While a patent may be obtained in many cases by persons not skilled in this work, there would be no assurance that the patent obtained would adequately protect the particular invention.

Most inventors employ the services of registered patent attorneys or patent agents. The law gives the USPTO the power to make rules and regulations governing conduct and the recognition of patent attorneys and agents to practice before the USPTO. Persons who are not recognized by the USPTO for this practice are not permitted by law to represent inventors before the USPTO. The USPTO maintains a register of attorneys and agents. To be admitted to this register, a person must comply with the regulations prescribed by the Office, which require a showing that the person is of good moral character and of good repute and that he/she has the legal, and scientific and technical qualifications necessary to render applicants for patents a valuable service. Certain of these qualifications must be demonstrated by the passing of an examination. Those admitted to the examination must have a college degree in engineering or physical science or the equivalent of such a degree.

#### **Contact Information**

The Office of Independent Inventor Programs (OIIP) was established in March 1999 in order to meet the special needs of independent inventors. The OIIP establishes new mechanisms to better disseminate information about the patent and trademark process and to foster regular communication between the USPTO and independent inventors.

A section of the USPTO's Web site is devoted to independent inventors (site is entitled "Independent Inventor Resources") and offers educational material covering all aspects of the patent and trademark process. The Web site also endeavors to educate independent inventors about fraudulent invention development and marketing firms and the scams that may affect these inventors and offers tips and warning signs on avoiding these scams. The site also publishes complaints against these firms and any responses received from them. The site further provides links to other USPTO sites, as well as links to other federal agencies.

The OIIP also offers educational and outreach programs, either alone or in conjunction with local Patent and Trademark Depository Libraries, independent inventor organizations and Small Business Development Centers. These programs cover all aspects of the patent and trademark filing and prosecution process and can be arranged for your group or organization by contacting OIIP at the number or address listed below.

(Editor's Note: The United States patent office can be reached at 703-306-5568 or at independentinventor@uspto.gov .)



## **Bunker Solutions**-

(Continued from Page 11)

product is where we tried to skimp on the product. Where we applied the product properly, the

Klingstone has held up very well to the rains as well as the freeze/thaw cycles of the winter. In fact, our bunker sand is staying so clean that we are currently replacing the sand with more angular sand that will pack better. Our original goal of reducing or eliminating the contamination of our bunker sand has been a success with Klingstone.

During our excavation process we have found that cleaning out our bunkers is made easier with a Klingstone hardened subgrade. We can virtually sweep the bunker subgrade clean of the old sand and rock prior to installing our new sand. Any areas that we damage during the excavation process are retreated with the Klingstone in those specific areas, as the product will bind to itself.

The only limitations we found with applying Klingstone were when the soil

During our excavation process we have found that cleaning out our bunkers is made easier with a Klingstone hardened subgrade. We can virtually sweep the bunker subgrade clean of the old sand and rock prior to installing our new sand.

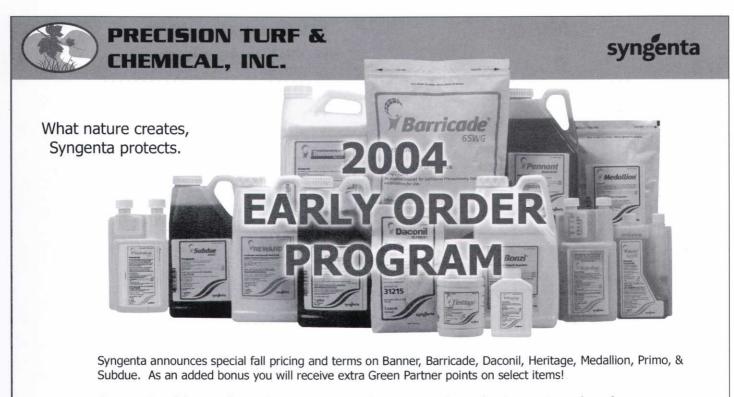
> temperatures dropped below 40 degrees and overnight temperatures dropped below 40 on exposed, treated soil. As long as bunker sand was installed on top of the product prior to temperatures going lower than 40 degrees, the soil treatment was not compromised.

#### Shameless Plug

Now that we are all tired of hearing about which candidate is a war hero or who served their country the most

admirably, may I recommend a book for your winter reading. One of the best things about developing this process for bunker solidification is the time I have spent with the company's President James Joyce. Last time I was with him he handed me a book and asked me to read it. James was a Vietnam helicopter pilot and has written

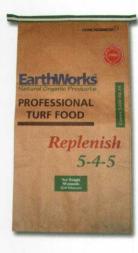
his memories down in the book Pucker Factor 10 (amazon.com). It may make you rethink how bad we have it when we are out handwatering because our pump station went down.



Contact Precision Turf at 1-800-925-TURF to learn more about the Syngenta early order program.

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# **Replenish 5-4-5** FORTIFIED ORGANIC FERTILIZER

The 5-4-5 is the flagship of the entire EarthWorks product line. Effective in all horticultural applications, supplying the soil with rich amounts of organics, minerals and available carbohydrates. Layer poultry compost, hard rock phosphate, soft rock

phosphate, greensand, potassium sulfate, dakota dry humic acid, molasses

lotal Nitrogen (N)	
Water Soluble Nitrogen	
Water Insoluble Nitrogen	
Available Phosphoric Acid (P2O5)	
Soluble Potash (K2O)	
Calcium	
Sulfur	
Application: 10-20 pounds per 1,000 sq. ft.	
*Available in both Standard and Greens Grade	

# **Replenish 10-2-5** AMMONIUM SULFATE FORTIFIED FERTILIZER

Ideal blend of soluble ammonium sulfate and bio-active organic material.

Laver poultry compost, ammonium sulfate, methylene urea, potassium sulfate, dakota dry humic acid, molasses Total Nitrogen (NI) 10%

iotal introgen (in)	
Water Soluble Nitrogen	
Water Insoluble Nitrogen	
Available Phosphoric Acid (P2O5)	
Soluble Potash (K2O)	
Calcium	
Sulfur	
Application: 3-15 pounds per 1,000 sq. ft.	

\*Available in both Standard and Greens Grade.

1. Soil test - to determine basic nutrient needs such as calcium, potassium, magnesium and phosphorous

2. Calcium - if limestone is needed in large quantities, it is best to apply up to 20 lbs of gypsum per 1000 sq. ft. 2 -4 weeks before aerification and then add the required limestone into the aerification holes. This allows for exchange of other nutrients off the soil colloid

3. Magnesium - if the soil test shows a need for magnesium, either Pro-Mag or Sul-Po-Mag can be applied at time of aerification, although Sul-Po-Mag is fairly soluble and does not have be applied in aerification holes.

4. Potassium – Potassium sulfate is very soluble and is best applied over the top of the turf and not in the aerification holes, but Eco-Lite, a physical amendment and sustainable form of potassium is best applied in the holes at high rates.

5. Phosphorous - if phosphorous is called for on the Soil First soil test, two forms are most likely recommended. MAP is a soluble form of phosphorous and should be applied over the top of the turf, but rock phosphate should be applied into the aerification holes.

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6. Organic amendments - aerification is the best time to apply organic fertilizers because they are designed to feed the soil 7. Nitrogen - soluble forms of nitrogen can help heal aerification holes but is best applied over the top of the turf

Aerification: This is the best time to add needed sustainable nutrients and food sources such as rock minerals and carbon (limestone, rock phosphates, organic fertilizers and physical amendments). The soluble nutrients such as nitrogen, gypsum and potassium sulfate can all be added to the soil surface before or after aerification.



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# The "Hole Truth"

Organic fertilizers are used to feed and build the soil. The best time to add organics is when you have open aerification holes in the ground.

The EarthWorks Replenish line of Formulated Organic Fertilizers will:

- Re-mineralize the soil
- Provide needed available carbon
- Create "energy" so the plant can manufacture proteins
- Supply as much as 60% more organic than a meal-based product for the same cost

Replenish is available in standard and greens grade in the following formulations:

5-4-5 fortified organic fertilizer 10-2-5 organic with ammonium sulfate





# Hex Plugger Drives Miltona Turf Products

By Glenn White

As the superintendent/owner of Lake Miltona Golf Club, Robert (Bob) Shields was faced with a common problem - repairing dead spots on golf greens. In the mid 1980s the only repair tool available was a circular cup cutter. Bob recognized the need for a more effective tool, one that would create a uniform plugging pattern with no gaps. As a result he developed the Hexagon Turf Plugger. This tool not only revolutionized turf repair but also spawned a new company - Miltona Turf Products.

The Hex Plugger continued to be refined and application was made for a patent. This process begged the question: Could the Hex Plugger be marketed to other golf course superintendents? Hoping to find the answer, exhibitor booth space was rented at the 1989 GCSAA Show in Anaheim, California where the Hex Plugger was first displayed. Response was extremely positive. Show attendees placed orders for over 200 pluggers. Miltona Turf Products then exhibited at the annual Minnesota Golf Course Superintendents Association Turf Conference held in Brooklyn Park December 1989. Again, response was very encouraging.

Miltona Turf Products entered the golf industry as a factory direct mail-order business. More products were developed and in 1990 the first brochure was produced for mailing. It was a full color 4-page flyer with price list and order blank inserts. It offered the Hexagon Turf Plugger in two models/sizes, the Sod Slide and Miltona's Bench. The Sod Slide (now known as the Sod





Stripper) was developed for repairing hydraulic oil spills. The unique Miltona Bench offered a comfortable design and could be "accessorized" as a portable tee station - complete with ball washer, shoe brush and wastebasket. Heavy-duty turf stakes rounded out Miltona's first mail order offering.

At the start, Miltona Turf Products was run out of the Shields' home while renting warehouse space in nearby Carlos, Minnesota. A sales manager was hired to look after the day-today workings of the company. Miltona Turf Products soon outgrew its in-home office. A new building was built on a nearby site to house offices, a shipping room and warehouse space. A receptionist/bookkeeper position was soon added.

In 1991, four more tools were ready for market, two of which became patented. The Cup Auger finishes cup holes at a consistent depth while removing troublesome sand from the cup hole. The Handi Aerifier aerifies localized dry spots without littering a green with soil cores. It attaches to a common cup cutter handle and can be used anywhere. A line of accessories and diagnostic equipment was also added to the Miltona brochure.

Miltona's acceptance in the market continued to grow. Its tools were used in the final preparations for the 1991 U.S. Open Championship at Hazeltine National Golf Club. The 1992 brochure included a testimonial from Chris L. Hauge, then superintendent at Hazeltine.

(Continued on Page 19)

# Miltona Turf Products -

(Continued from Page 18)

Miltona Turf Products' growth accelerated and new product ideas required constant attention. In 1995 the Lake Miltona Golf Club was sold. Tom and Patty Blank became the new owners that fall.

Handling more products required more space. The warehouse was expanded in 1997. Bob Shields continued to build the business through 1999 at which point it was sold. Dan and Deb Halvorson became Miltona's new owners in January 2000. Deb and Dan had definite plans for the business. Keeping pace with current technology, many operational advancements were made. The daily shipping process became computerized. A website featuring the Miltona catalog online was established. Superintendents could now place internet orders 24 hours a day. The catalog mailing process was refined and expanded. Upgraded catalog designs were introduced. Expanding into related turf markets was explored.

New product research and development continued with an expanded interest in superintendents' ideas, input and feedback. This brought about the successful introduction of numerous new products: the Dew Draggin', Ground Zero Leveler, Level Best Ball Mark Repair Tool, Hedger Trimmer Blades, Dimple Tines, Valve Key Tool and innovative signage.

Exhibiting annually at the GCSAA Trade Show, Miltona has developed business relationships with several international companies. Its products have been introduced to many markets outside the United States. Miltona Turf Products conducts business in virtually every Canadian province, Japan and several European countries. The number of worldwide distributors started with only a handful. Today that number has grown to over 25 distributing companies in 14 countries accounting for more than 10% of annual sales.

Miltona has also proven to be a viable marketing outlet for products developed outside the United States. One prime example is the HIO (Hole-In-One) hammer action cup cutter. KSAB Golf in Sweden approached Miltona to market the HIO nationally throughout the U.S. Introduced in 2002, the HIO rapidly became one of Miltona's most popular products.

The 2003 Miltona catalog expanded to 36 pages and its display booth used for the 2004 GCSAA Trade Show was completely redesigned. The company logo also changed. Its new look is emblematic of Miltona today - bold, innovative and progressive.

In keeping with the goal of providing exceptional tools direct to the turf professional at a reasonable cost, the Halvorsons also acquired a small wholesale hardware supply business, Soderholm Quality Products. The two entities operate out of the same Miltona, Minnesota location. Several Soderholm tools are available to superintendents via the Miltona catalog and website.

Miltona Turf Products continually strives to maintain its unique niche within the golf industry. Miltona is not and will not be all things to all people. Consistently offering one-of-akind tools, high quality products, and excellent customer service have been key factors in Miltona's growth.

Throughout the 16 years Miltona has been in business its guiding principle remains the same: to manufacture and market turf maintenance equipment of the highest quality direct to professionals with a level of service second to none. Miltona abides by this philosophy daily and looks forward to serving superintendents and other turf grass professionals in Minnesota, throughout the country, and around the world.





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