

## FERTILIZER

### FACTORS AFFECTING PRICING VOLATILITY

*Author Jeff Jowell, CGCS, serves as golf agronomics sales specialist for Ewing Irrigation's South Texas territory.*

*When industry experts discuss the "volatility of fertilizer", they are typically referring to the "loss of fertilizer", describing its transformation from a liquid or solid into a gas. Today, we'll shed some light on the increasingly volatile market of fertilizer pricing, and what steps you can take to protect your budget.*

Fertilizer, in granular or liquid form, is a world commodity. Its worth is guided by the supply and demand of that specific product; anyone who is a part of the supply chain has noticed the substantial price increase over the last few years.

So why the price hike? Officials pin the increase to global demand and the rising cost of natural gas, the main ingredient in nitrogen.

### NITROGEN: FERTILIZER'S MAIN INGREDIENT

Anhydrous ammonia (converted from airborne nitrogen) is the main manufacturing component of nitrogen-based fertilizers, and natural gas is an integral element in ammonia production; the hydrogen in ammonia comes directly from natural gas. To make ammonia for fertilizer development, a substantial amount of energy (natural gas) must be consumed. In fact, it is so important in this process that it takes 33,500 cubic feet of natural gas to produce one ton of anhydrous ammonia. Anhydrous ammonia is the base component of almost every nitrogen-containing fertilizer that is used for turfgrass production.

When anhydrous ammonia is combined with carbon dioxide at a high heat and pressure, the result is urea. Urea is the building block of ammonium nitrate, methylene urea, urea formaldehyde, nutralene and many other elements. This is why it is difficult to find a nitrogen-containing fertilizer that is not affected by natural gas prices.

### SUPPLY AND DEMAND

As many of us learned in economics, when supply exceeds demand, the price for a commodity goes down; when demand exceeds supply, the price goes up. Since the early 1970s, fertilizer usage in the United States has remained fairly constant, with a total volume of about 21 million tons per year. But as the demand for more environmentally friendly fuels heightens biofuel crop production, fertilizer demand has skyrocketed, taking the price up with it.

Global demand for fertilizer has also been on a steady rise. Historically, the United States consumed all of the fertilizer produced domestically. However, as agricultural lands diminish, U.S. Currency



The soaring price of natural gas directly affects the market cost of nitrogen-containing fertilizers.

declines, and raw materials for fertilizer diminish, we see supplies go down, demand go up, and prices in a volatile state.

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Projections aren't looking good for 2008, but experts predict a correction in fertilizer prices occurring in 2009 and continuing into 2010. Until then, here are a few tips to keep in mind when looking at fertilizer prices.

#### TIPS TO OVERCOME PRICING VOLATILITY

- Only fertilize areas that are in need.
- Have your soil tested so you can properly evaluate how much and what type of nutrients you need.
- If you have space available to store fertilizer, order in advance; this will help avoid the rush on fertilizer companies that causes prices to spike in early spring.
- Research the different sources of fertilizer, and how you can make adjustments to your fertility program. 💧

## AIDING IN BUNKER MANAGEMENT

### TIM SCHAEFER OFFERS A PERSONAL PERSPECTIVE ON ADDRESSING BUNKER WOES

*Author Tim Schaefer is superintendent at Emerald Falls Golf Club in Broken Arrow, Okla.*

*Bunkers can be one of the biggest headaches of golf course management. One of the most frequent bunker complaints is the inconsistency of play, along with other issues such as wash-outs and contamination of the sand surfaces.*

Because of these bunker dilemmas, companies have developed products to assist in bunker maintenance. As a previous assistant at Spring Creek Ranch in Collierville, Tenn., I had the privilege of rebuilding and constructing three different sets of bunkers. Eight years after construction, we finally got the approval to reconstruct the bunkers. At that point, we started researching all the available liners in the golf course industry.

When the course was built, there was an inadequate amount of drainage in the bunkers, and a liner had not been installed. After comparing our options for renovation, we chose to use SandMat, a product that ended up solving all my bunker woes.

For the bunker renovation, we added drainage, applied four inches of pea gravel, and then lined the bunkers with SandMat 400. The rebuild was fast, and the installation of the SandMat was done with ease.

In May of 2006, I accepted a superintendent position at Emerald Falls Golf

Club in Broken Arrow, Okla. I was in charge of dealing with the construction and grow-in period, and had many decisions to make. My first—and in my opinion, the most important—was convincing the owner that we needed to line the bunkers. However, it did not take very long; I explained to him that because we wouldn't have to repair them every time a heavy rain occurred, we could recoup the cost of the liner in just two years. He approved the buy. This time I used SandMat 200, and decided in the interest of our budget, to skip the pea gravel layer. Heavy amounts of sub-surface drainage were added, and the liner was then stapled to the ground.

It has been over a year—and one of the wettest years in Oklahoma history since the bunkers were built—and we have never had to send a crew out to repair them.

Anyone who is constructing, rebuilding or having problems with their bunkers, should consider SandMat. There is not a better bunker solution on the market. 💧



Golf courses across the country use SandMat to solve their bunker dilemmas.

# NEW MEXICO GOLF COURSE TRANSFORMED

## HUNTER TUNED-IN TO CUSTOMER EXPECTATIONS

*Author John King serves as golf sales specialist for Ewing Irrigation's New Mexico territory.*



Hunter's G990 heads offer distribution uniformity and provide a full range of coverage to assist in seed germination.

*It's almost tee time at one of southern New Mexico's newest golf courses. Las Cruces Country Club (LCCC) has elected to enhance the quality of their facility by installing a first class Hunter Golf irrigation system for their greens.*

Ewing partnered with Hunter to begin development, integrating valve-in-head G990 rotors controlled by a Surveyor central computer and hand-held radios.

Construction for the new course is taking place on the eastern outskirts of Las Cruces as part of a land swap deal with the The Phillipou Group for the existing and outdated LCCC golf course property. This open—yet challenging Ken Dye designed golf course—is being constructed by Golf Works Inc., led by experienced construction superintendent, Ruben Chavarria. The course will feature a 90/10 blue/rye mixture on the fairways and primary roughs, with a variety of warm season native grasses on the steep bunker faces and green surroundings.

Considering the challenges of growing cool-season grass fairways in southern New Mexico, some intelligent decisions had to be made: specifying the right cultivars, choosing the right irrigation heads and selecting the right superintendent.

Seasoned superintendent, Alan Salter, CGCS, was selected to bring it all together. Nine different hybrid bluegrasses from multiple growers were chosen for their heat tolerance, drought resistance and growth habits. Hunter Golf rotors were brought in to provide uniformity, efficiency and accuracy of water distribution.

Salter arrived on the LCCC site in August 2007, two weeks before seeding began.

Salter, a veteran of using a diversity of irrigation controllers, found the Hunter Surveyor Central Control System user friendly and simple to program, and liked its ability to set multiple programs. The Ewing Golf Team provided Salter with in-the-field training of the VSX system (field decoder irrigation controller), which allowed him to program and operate the controllers in just a short time.

“If the Surveyor Central Control System is as easy to use as the hand-held radios and satellites are, then I look forward to using it for a long time,” Salter said.

With the controllers up and running, Salter was able to see the Hunter G990 heads in action. “The Hunter G990 heads have really good distribution uniformity. They cover the bare, or seeded, ground very well and have helped with germination.”

With six holes planted and growing-in, seeding was suspended in October 2007 and will resume when irrigation installation is complete. The balance of the shaping and irrigation installation is ongoing through the winter, with seeding to resume in March 2008. Performance of the irrigation system, proper seed selection and the appointment of a knowledgeable superintendent have provided an excellent stand of turf thus far for LCCC. 💧

## EWING ANNOUNCES TOLL-FREE # FOR GOLF SALES & HUNTER PARTS

Ewing Golf Sales and Parts have put in place a toll-free number for your convenience—directly connect with a service specialist who can help you with irrigation products, golf and central control services. Ewing experts are waiting to assist you with any vendor or customer needs.

### Dial 1-866-706-PAR4 (7274).

When you hear the recording, press...

- 1 for Dave Danley, serving the western states
- 2 for Ryan Zimmerman, serving the central and midwestern states
- 3 or 4 for Dirk Hessman, serving the southeastern states and northeastern states

Contact by cell...

1. Dave Danley: 602-524-9543
2. Ryan Zimmerman: 469-585-5117
3. Dirk Hessman: 770-617-9420 💧



Call anytime to reach one of Ewing's qualified professionals with any golf inquiries.

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### Toll-Free # for Golf Sales & Hunter Parts

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## OUR FOCUS

*A leading authority on the latest water management products, trends and best practices, Ewing provides commercial and residential irrigation supplies, landscape and agronomic products, low-voltage lighting, erosion control, water features and industrial plastics to professionals serving the landscaping, turf, golf and industrial industries.*

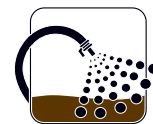
## Your Source for Professional Golf Course Turf

Ewing understands golf course professionals have zero room for error when it comes to their turf; that's why Ewing provides a full-line of premium golf-quality irrigation products from Hunter Industries, including Hunter Surveyor Central Control Systems, Hunter G870/G875 rotors, Hunter G990/G995 rotors, or other Hunter parts and accessories.

For new builds, renovations, maintenance, and overseeding needs, Ewing stocks an array of turfgrass species and forage grasses from growers like Seed Research of Oregon, and Mountain View Seeds, as well as regionally-adapted fertilizer, including Best Fertilizer, Howard Johnson's Fertilizer, and Andersons Fertilizer. For more information, email [golf@ewing1.com](mailto:golf@ewing1.com). 



WATER MANAGEMENT



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Professionals since 1922

