

7-IRON

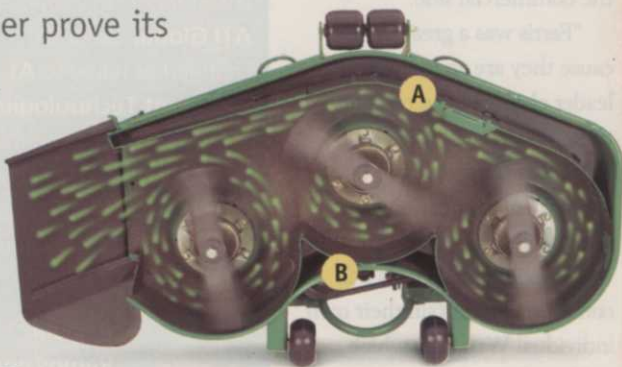
Its inspiration was the passion to build the best. Four years and four million pounds of pressure later, it's finally ready. Introducing the 7-Iron™ mower deck from John Deere. Stamped from a single sheet of incredibly thick 7-gauge (.177 inch) steel, in the industry's largest press, its perfectly smooth and impossibly strong shell (shown to the left) has no welds to break, or irregular



areas to catch clippings. A full-length front baffle **A** eliminates any dead space and brushes grass into an ideal vertical position. An almost unimaginable depth (5.75 inches at maximum **B**) creates a superior vacuum in which to cut. A multi-step electrostatic paint

A diamond isn't the only thing formed by tons of pressure.

process (impressive for the automotive industry, let alone mowing) guards against rust. While features such as a rubber deflector shield and aluminum spindle hubs further prove its engineering excellence. (Rubber is more flexible than steel, and aluminum die casting more precise.) Available in 48-, 54-, and 60-inch widths, and only from your local John Deere dealer, the 7-Iron deck is simply the best



in the world. To see for yourself, call 1-800-537-8233 or visit www.deere.com for a dealer near you.

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Nothing Runs Like a Deere®



Ferris-Simplicity merger spawns new product line

PORT WASHINGTON, WI — Simplicity Manufacturing Inc. purchased Ferris Industries, Munnsville, NY, only a couple months ago, but already the company has taken advantage of its newly formed association by coming out with a consumer line of commercial mowing equipment.

The new line is called Derby because of the mowers' emphasis on speed. "This line is geared toward busy young professionals who want to cut grass fast with commercial-tough equipment," says Jim Weir, president of Simplicity.

Simplicity, known for its dominance in the consumer mowing sector, acquired Ferris with an eye for expansion to the commercial side.

"Ferris was a great fit because they are an innovative leader clearly ahead of their time," Weir says. "We also think that they will help us strengthen our relationship with dealers."

Simplicity and Ferris will continue to maintain their own individual Web sites which, unlike other sites, are designed to allow people to find the company's dealers. Weir hinted at delving into selling equipment directly from the site, however. "We're going to begin selling a limited amount of equipment on our Web site this spring, but we're going to include the dealer in the process," he says. "We'll sell to

customers but the dealers will set everything up and contact and interact with them."

An addition to Simplicity's plant is currently being built to meet the increased demand for its products, but Ferris will continue to stand by itself, says

Weir. "Ferris is a vast, nimble and innovative company, and we want to keep it that way. The reason we acquired them is because they didn't have the capital to support their growth."

Weir says that Simplicity will eventually incorporate

some of Ferris' technology into its own machines, including the IS® independent suspension system. "Simplicity is known for offering the best cut, and that information will be translated to Ferris for a solid combination."

—Jason Stahl

People & companies

The **Toro Company** named **Dave Armentrout** general manager of its recently acquired distributor, Chicago Turf and Irrigation.

Greenman-Pedersen named **John Spiegel** vice president and director of land development services.

Attachments manufacturer **ATI Global**, Delhi, IA, changed its name to **Attachment Technologies**, Inc. Attachment Technologies is the parent company of Bradco and The Major, providers of construction attachments.



Angela Ramos and Sandra Casserly have joined **Van Waters**

& Rogers' Professional Products & Services business unit as turf and landscape specialists.

Jerry Pauley and Lee Bloomcamp were named

territory sales representatives for **Zeneca Professional Products**. The company also named **Bill McClellan** as its North American technical manager for professional pest control and turf products, **Kathy Cantagallo** as contract technical sales manager and **David Ross** as national accounts manager.

Roeland Kapsenberg was appointed by **Barenbrug USA** as its new president/CEO of Barenbrug North America. **Ron Dodds** was named territory manager for the company's Forage product line.

Tom Taylor has rejoined **Woods Equipment Company** as marketing manager, Agriculture and Turf Business.

Rohm and Haas Company named **Gray C. Wirth** strategic market manager for turf and ornamental products.

David Mutter joined **Environmental Industries of Calabasas**, CA as vice president of sales and mar-



keting. The company promoted **William H. Arman** to corporate

vice president of human resources.

Harmony Products promoted **John Moriarity** to vice president of sales and marketing.

Sweepster of Dexter, MI named **Patrick Robertson** vice president of manufacturing.

Sumitomo Chemical, the parent company of Valent USA, purchased the Ag Specialties Business of Abbott Laboratories. The acquisition will provide Sumitomo with naturally occurring biopesticides, plant growth regulators and other products for agriculture, public health and forestry.

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*See Program Guidelines for details.

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industry almanac

Church leaves TruGreen-LandCare

LOMBARD, IL — Bruce Church, of TruGreen-LandCare (formerly D.R. Church Landscape Co.), announced that he is leaving the company to explore new opportunities.

Church, a founding member of LandCare USA, which was acquired by the TruGreen Division of ServiceMaster in 1998, will hand over his duties as district manager to John Joestgen. Church will remain TruGreen-LandCare as a consultant until March 3.

[CLIPPINGS]

Surfin' Turf

Dressed for success

NEBS.com, a small business management resource <http://www.nebs.com>

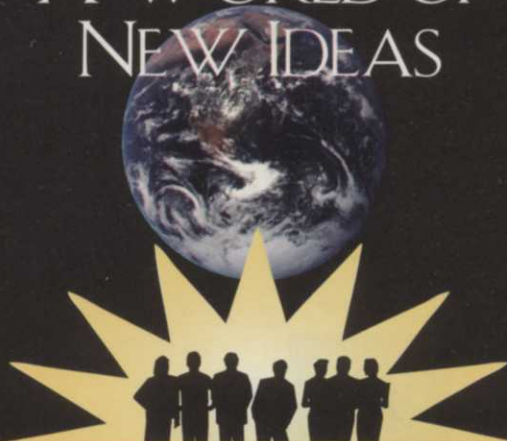
Perhaps you've been thinking that forest green t-shirts and pleated khakis might make your crew the envy of the fashion world. Or maybe you want to make the switch to bright orange t-shirts for your crew's safety.

Whatever your desire, you can get it done at www.nebs.com, a Web site that has recently added Company Colors™ work wear to its online cata-

log that makes customizing and proofing uniform orders as easy as a stroll down a runway.

Anybody who knows how to work a mouse can customize a product by selecting its style, color, logo, embroidery typeface and thread color. Once the design is complete, the screen displays a visual representation of the finished item. Among the clothing items offered are industrial work pants, coveralls, jackets, work coats, sweatshirts, t-shirts and hats.

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Circle 116

It's (not) in the hole!



(L to R) Mike Ochoa, Irritrol Systems' director of sales and marketing; Mark Dailey, top prize winner from San Antonio, TX; and Rick Parod, vice president of The Toro Company.

ORLANDO, FL - Irrigation contractor Mark Dailey found himself doing his best Carl Spackler from *Caddyshack* imitation recently when he out-putted seven other finalists for a chance at becoming a millionaire at Irritrol Systems' \$1 Million Putt Competition. Even though he wasn't able to say, "It's in the hole," on the 35-footer that would have put him in Bill Gates' company, he did walk away with \$15,000.

Dailey's \$1 million putt attempt marked the culmination of a year-long Irritrol promotion that was open to landscape and irrigation contractors nation-

wide. Eight contractors were selected by random drawing to compete in the two-day putting event. In addition to receiving

an all-expenses paid trip to Orlando, the eight finalists took home cash prizes ranging from \$1,000 to \$15,000.

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A source of disappointment...

to the Ohio Turfgrass Foundation was the group's listing in our Green Book 2000 printed in December 1999. It turns out we listed the old address. The correct address for the Ohio Turfgrass Foundation is P.O. Box 3388, 1100-H Brandywine Blvd., Zanesville, OH 43702-3388, telephone: 888/683-3445, fax: 740/452-2552, email: kthompson@offinger.com, contact: Kevin Thompson, managing director. We apologize for the error.

Choosing 'designer' or 'generic' fertilizers

BY BOB STAIB

The price differences are obvious and they all deliver nitrogen, but there the similarities between fertilizers end. Each type, from basic to 'designer,' has features that may make your applications more effective

The essence of fertilizer is nitrogen, and all types of fertilizers available to the landscape and grounds management industries offer nitrogen. What makes them distinctive is the nitrogen delivery mechanism, their cost and the way they can fit into your turf and landscape operations.

Back to basics

For the purpose of simplification, consider the four major categories of nitrogen fertilizers:

- ▶ soluble nitrogen (ammonium sulfate, urea)
- ▶ coated soluble N (sulfur coated urea, polymer coated urea, polymer coated sulfur coated urea)

▶ natural organic N (activated sewage sludge, digested sewage sludge, fish meal, dried blood meal, composted turkey manure)

▶ reacted (synthetic) organic N (ureaform, methyleneurea, liquid methyleneurea, isobutyli-denediurea)

These products range in price from very expensive to inexpensive; from soluble nitrogen levels of as little as 2% to as much as 46%; and from quick to slow release into the soil, among other characteristics.

Mode of release

By understanding the methods of release, you will know what separates the more engineered, 'high tech' fertilizers from the more basic varieties.

Bacteria known as nitrobacter and nitrosonomas (that occur abundantly in most plant supporting soils) rapidly convert ammoniac nitrogen to the readily available nitrate (NO₃⁺) form that most plants prefer. Nitrate nitrogen moves freely in the soil solution and is subject to leaching and runoff.

When nitrate N accumulates faster than plants can take it up, two things happen:

TABLE 1. MAJOR FERTILIZER PRODUCTS (NITROGEN AVAILABILITY)

Type:	Coated soluble nitrogen	Natural organic nitrogen	Reacted (synthetic) organic nitrogen
Soluble nitrogen			ureaform (38% N)
ammonium sulfate (21% N)	sulfur coated urea (37 to 39% N)	activated sewage sludge (6% N)	methyleneurea (40% N)
urea (46% N)	polymer coated urea (38 to 44% N)	digested sewage sludge (2% N)	liquid methyleneurea (15 to 21% N)
	polymer coated sulfur coated urea (38 to 39% N)	fish meal (10% N)	isobutyli-denediurea (31% N)
		dried blood meal (12% N)	
		composted turkey manure (10% N)	

1. Vegetative growth becomes rapid, lank and lush; and
2. Under irrigation or rainfall, some of the nitrate N moves beyond the root system to go where the water goes. Soluble nitrogen must be used judiciously to minimize this. Also, soluble N sources have a high salt index, giving a greater burn potential when contacting leaf surfaces. For these reasons, the standard industry recommendation for turfgrass has been to apply no more than 1 lb. of soluble N per 1,000 sq. ft. per month of growing season.

What urea does

Urea is the soluble N source most commonly used in our industry. The enzyme (urease) exists universally in soil on plant tissue and organic matter. Urease quickly converts urea to carbon dioxide and ammoniac nitrogen. In higher pH soils, volatile ammonia may be formed with a resultant loss to the atmosphere.

Because urea has a high N content and is generally the cheapest form of nitrogen in cost per pound, it is the most commonly used of the soluble N fertilizers. It is very reactive with chemical aldehydes, and thus is the raw N source for the slow-release synthetic organic fertilizers. The spherical urea prills lend themselves to uniform coatings of molten sulfur and/or semipermeable polymers. Each of these processes prevents the rapid accumulation of nitrate nitrogen described above.

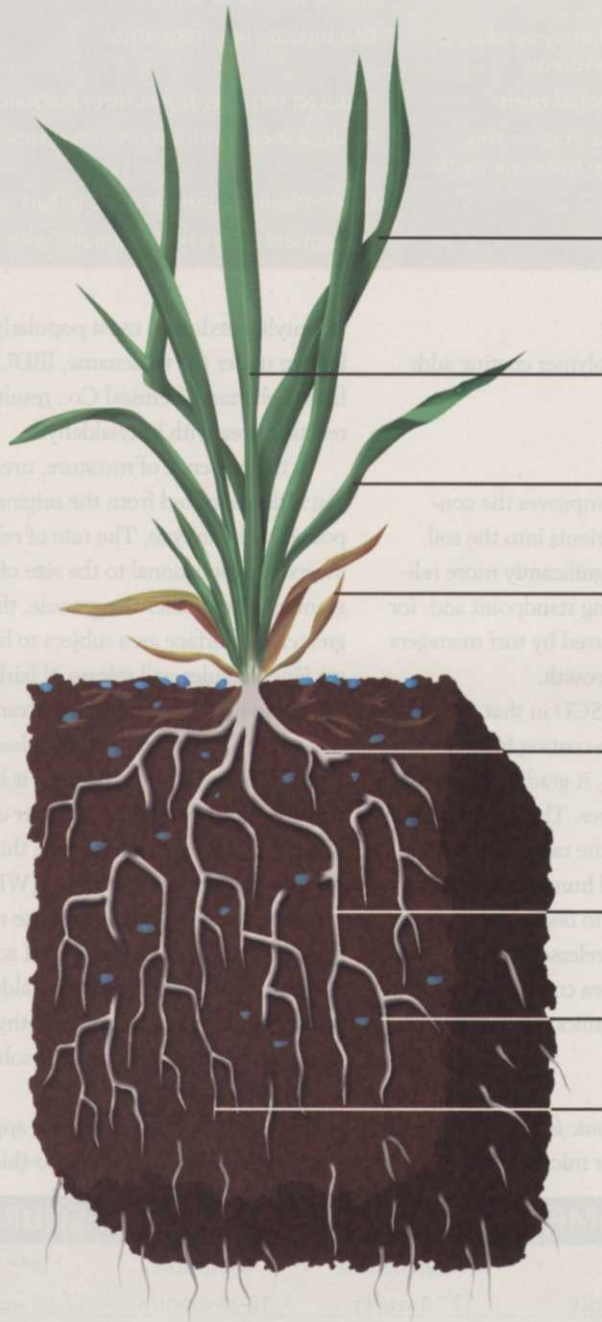
Going natural

Natural organics were the first slow-release N sources. Before fertilizers were commercialized, natural organics were the only source of plant nutrients. Most all the nitrogen is released by soil microbes that use it for food and energy.

The limitations of natural organic fertilizers are their lower N content, the potential for contaminants of toxic metals and, with some, odor. Products commonly used in the green industry, however, are safe to handle and apply with minimal odor problems.

Coated products

Sulfur coated urea (SCU) is the lowest cost slow-release nitrogen product. This was first developed by the Tennessee Valley Authority in the late 1960s. There are now seven commercial manufacturers:



- Potential for fertilizer burn
- Quickness of response
- Efficiency
- Thatch buildup
- Potential for runoff or leaching
- Longevity of response
- Cost
- Salt index

LESCO Inc.; NU-GRO Corp.; Pursell Technologies; The Scotts Co.; Vicksburg Chemical Co.; Agrium Inc.; and Royster-Clark Inc.

Nitrogen is released by diffusion through pinholes and imperfections in the sulfur coating. The thinner the coating, the higher the N content, but the lesser the integrity of the surface. Straight SCU is more fragile than polymer coated materials because it is subject to degradation during handling

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SOURCE: NU-GRO TECHNOLOGIES, INC.

Choosing fertilizers

TABLE 2. CHARACTERISTICS OF NITROGEN

Quick-release sources	Coated slow-release sources	Reacted slow-release sources
Soluble in water	Slowly soluble in water	Controlled solubility in water
Can be used immediately by plants, which show rapid response	Can be used less frequently	Supplies N gradually
High potential for foliar burn	Reduced fertilizer losses from leaching	Little fertilizer losses from leaching
Require applications at low rates, frequent intervals to sustain growth	Produce more uniform growth response	Low salt index, little burning
Leach readily	Economically sound for general turf applications	Performance not affected by coating
	Susceptible to breaking/damage with handling	

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and application. A polymer coating adds durability.

Polymer coatings

Polymer coated urea improves the controlled release of nutrients into the soil. These coatings are significantly more reliable from the handling standpoint and, for this reason, are preferred by turf managers who want uniform growth.

They differ from SCU in that water slowly permeates the coating from outside. As the urea dissolves, it gradually permeates through tiny pores. The thickness of the coating governs the rate of N release.

When it's hot and humid, the coatings are more susceptible to degradation, which may adversely affect release rates. The cost of polymer coated urea compares to that of reacted synthetic organics.

'High-tech' options

Reacted synthetic organic fertilizers release N through hydrolysis or microbial activity.

Isobutylidenediurea, most popularly known under the tradename, IBDU®, from Lebanon Chemical Co., results from reacting urea with butylaldehyde.

In the presence of moisture, urea nitrogen is disassociated from the original compound by hydrolysis. The rate of release is inversely proportional to the size of the granule. The smaller the granule, the greater the surface area subject to hydrolysis. Fine granules will release N fairly rapidly in high moisture. The advantage of using IBDU on turf is that the release rate is not temperature sensitive and it has a very low burn potential. Fertilizer control officials classify 90% of the N in this product as water insoluble nitrogen (WIN).

Methyleneurea fertilizers release nitrogen by both hydrolysis and microbial activity. When urea is reacted with formaldehyde under prescribed conditions, methyleneurea polymers of decreasing solubility are produced.

Dry methyleneurea fertilizer is approximately one-third WIN and two-thirds

'sparingly' soluble nitrogen. It contains about 6% free urea. The urea and, to some degree, the shortest chain carbon-nitrogen linked polymers release nitrogen initially by hydrolysis. Then, soil microorganisms (the decomposers) use the remainder for both food (N) and energy (C), gradually releasing plant-available ammoniac nitrogen back to the soil. Granular MU fertilizer releases nitrogen over 12 to 16 weeks.

Liquid methyleneurea fertilizer contains only the soluble MU polymers and more free urea. There is some controlled release, though, of much shorter duration than the granular 40% N material.

Ureaform provides longer lasting carbon and nitrogen for microbial activity. When urea is reacted with formaldehyde, the result is longer chained, less soluble carbon-nitrogen linked polymers.

Because urea is in excess in the reaction, there remains about 4% free urea. The finished product contains approximately one-third sparingly soluble nitro-

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TABLE 3. COMPARISON OF MAJOR NITROGEN SOURCES

Characteristics	Methyleneurea	Ureaform	IB**	SCU	Polymer coated	Urea
Release characteristics	12-16 weeks	12-16 months	12-16 weeks	Varies	Varies	1-4 weeks
Hydrolysis releasable	*		*	*		*
Microbial releasable	*	*				
Not dependent on coating or particle size for release	*	*				*
Nonburning	*	*	*	*☆	*☆	
Low salt	*	*	*	*	*	
Minimal leaching/volatilization	*	*	*	*	*	
Temperature response	*	*			*	

☆ Can cause mottling if coating is broken

** IB is a registered trademark of Lebanon Seaboard Corp.



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4 directional air vents allow operator to place the air flow where needed.

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Optional deluxe instrument package includes keyless start security system, function lockouts, clock and job clock, multi-language display, "help" menu, catastrophic failure shutdown system, virtual bar gauges for key loader functions and engine diagnostic and monitoring. (See inside for more.)



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Rear-pivot seat bar accommodates even larger operators with ease, and doubles as a secondary restraint and convenient armrest.

See inside for a better view.