



The Expedite system, shown here, eliminates almost all chances for accidents, according to landscapers who use it.

INDUSTRY

## Biotech, safety are keys to 'good life'

ST. LOUIS — Biotechnology will play a bigger role in the lives of Americans and the green industry as they approach the year 2000.

This is how management at the Monsanto Company feels, according to Dr. Mike Montague, manager of research operations.

"Biotechnology is a quantum leap that ranks with the development of atomic and computer technology in this century," Montague told a group of reporters assembled at Monsanto's Chesterfield, Mo., research facility. "Biotechnology will have that kind of impact on our lives. And we

have bet the company on it."

Monsanto spent \$150 million to build its one million square foot facility that includes twenty-six 2600-square foot greenhouses.

"Congress and the administration is seeing that, for the U.S. to preserve its way of life, biotechnology

and other technologies are absolutely critical," Montague noted. "Total value of biotechnology-based products could easily be \$100 billion by the year 2000."

In keeping with its goal of producing environmentally-sound products, Monsanto came out with its

*continued on page 18*

INDUSTRY

## Pesticide manufacturers to pursue lawn, landscape pros

FAIRFIELD, N.J. — Lawn care operators, golf course superintendents, landscapers and other professional turf managers are being vigorously pursued by pesticide and fertilizer manufacturers.

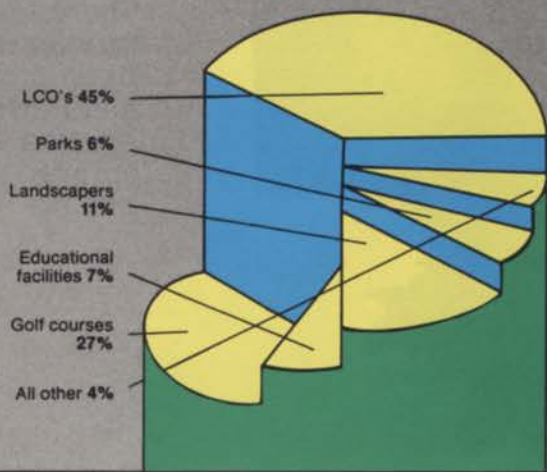
A recent study by C.F. Kline & Co. says manufacturers are being spurred on by profit incentives rather than market expansion or market size. Kline reports that 1988 sales to turf managers were about \$780 million, much lower than the total U.S. consumption of \$10 billion. However, sales to the specialty markets are contributing almost as much to company pro-

fitability due to lower development and selling costs.

Lawn care operators represent the industry's largest end-use segment, responsible for nearly 45 percent of fertilizer and pesticide sales. Golf course sales are second at 27 percent, and landscapers third at 11 percent (see chart), according to Kline & Co.

The report says competition will get stiffer, and acreage maintained by turf professionals will grow slowly. Manufacturers will increase sales only through the success of new products that chip away at competitors' market shares. □

### 1988 U.S. CONSUMPTION OF PESTICIDES AND FERTILIZERS BY PROFESSIONAL TURF MANAGERS






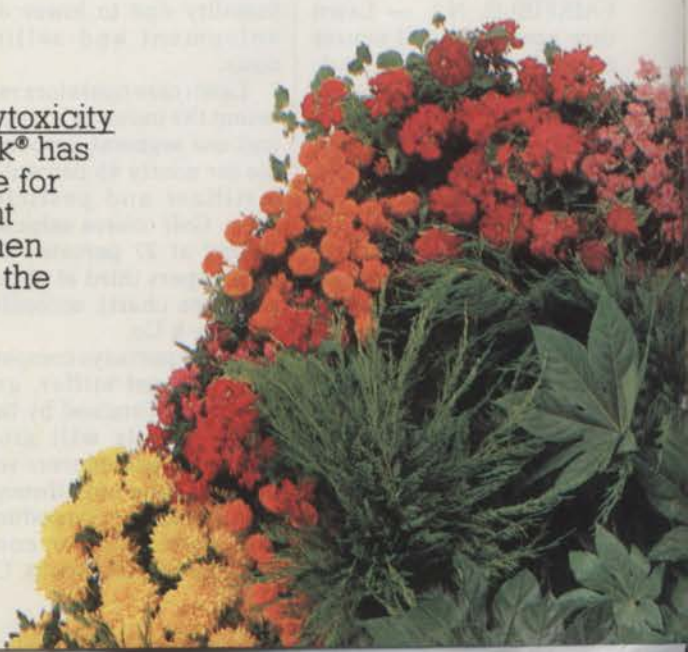

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It is a non-restricted product that is highly effective against the majority of insect and mite problems.



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## SHORT CUTS



# Sure Is A Funny Looking Tee

It doesn't look like a tee, but in a way it's one of the best friends a golfer can have. Whether it's the fairway or the green, it's your job to provide and maintain the best playability for your golfers. Every golfer loves to walk up to that second shot and have the ball "teed up" on a lush green fairway. Every golfer looks for a true roll on the green.

### Drift Reduction Is The Key

The Delavan Raindrop® nozzle helps you produce and maintain lush fairways and true greens. The Raindrop® is a wide-angle (120 degree), hollow-cone, drift-reduction nozzle.

- Driftable fines are reduced.
- The chemical goes where you want it.
- Larger orifice opening and passages minimize clogging.
- Color-coding makes selection and installation quick and easy.

Whether you are spraying insecticides, herbicides, fungicides, or fertilizer, the Delavan Raindrop® helps you maintain the type of playing surfaces your golfers expect.

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For the location of your nearest Delavan dealer, call toll free **1-800-621-9357**.

Colt Industries



## Delavan

Agricultural Products Operation

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**AT LAST, AT LEAST...**After years of bandying about a proposal that they unite for one large national conference and trade show, three of the green industry's top trade organizations have finally given the go-ahead. Last to embrace the idea was the Associated Landscape Contractors of America (ALCA), whose board of directors approved the plan in July. Also involved are the Professional Grounds Management Society (PGMS) and the Professional Lawn Care Association of America (PLCAA). The event is said to be proposed for October or November, 1990 in Nashville, Tenn.

**TAKE HEED...**"None of us has a crystal ball," notes industry consultant **Charles Vander Kooi**. But he's ready, via his newsletter, to do some predicting. "I feel that in 5 to 10 years, there will be 30 percent fewer companies in this business than there are today. This reduction in contracting firms will not be necessarily due to a poor economy. Rather, I feel it will be due to the fact that certain companies will become more advanced in their use of computers, more sophisticated in their estimating and job costing, and better managers of their businesses. As more companies become that way, they will take more of the available jobs away from those who are not advancing in the way they do their business."

**BIO BOOM...**Safer, Inc. reports that its sales of non-toxic, biodegradable pesticides more than doubled from April to June when compared to sales for the same period in 1988. And according to Safer's figures, yearly sales of non-toxic biodegradable pesticides by all manufacturers are now at almost \$31 million. "Biodegradability can be measured by examining the residual life of a product," says **Dr. Michael Atkins**, Safer's director of technical services and an entomology professor at San Diego State University. "The shorter the residual life, the more degradable the product."

**NEW DIRECTIONS...**The H.B. Musser Foundation, according to its president **Frank Dobie** of Sharon (Ohio) Country Club, is heading in new directions lately. "We're finally starting to put the concept of the Musser Foundation to work," he notes. "We've reorganized and have concentrated more on searching out more doctoral students for fellowships." He says the Musser Foundation, if it can increase its principal fund, hopes to eventually present multiple scholarships of \$10,000-\$12,000 each. "We're moving ahead," Dobie notes. For information on contributing to the foundation, call him at (216) 239-2383.

# READ

...the fine print.

**Net Weight 61 $\frac{7}{8}$  lbs**

CAUTION: PLEASE KEEP OUT OF THE REACH OF CHILDREN. EYE CONTACT WITH CONTENTS MAY CAUSE IRRITATION. FLUSH EYES WITH WATER AS SOON AS POSSIBLE.

ProTurf Fairway Fertilizer 32-3-10 643-8408

**Guaranteed Analysis**

Total nitrogen (N)	32%
0.8% ammoniacal nitrogen	
24.5% urea, methylene urea nitrogen	
6.7% water insoluble nitrogen	
Available phosphoric acid (P <sub>2</sub> O <sub>5</sub> )	3%

Scott's ProTurf

**GUARANTEED ANALYSIS**

Total Nitrogen (N)	30%
5.0% Water Insoluble Nitrogen	
0.0% Ammoniacal Nitrogen	
0.0% Urea Nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> )	5%
Soluble Potash (K <sub>2</sub> O)	9%
Magnesium (Mg)	10%
Sulfur (S)	0.0%
Iron (Fe)	1.0%
Manganese (Mn)	0.5%

Nutrient Sources: Urea, Methylene Ureas, Ammonium Phosphate, Ammonium Sulfate, Ammoniated Superphosphate, Sulfate of Potash, Oxides, Ferrous Sulfate, Sulfates.  
Potential Acidity Equivalent 1000 lbs. Calcium Carbonate per Ton.

Lebanon Country Club

**GUARANTEED ANALYSIS**

TOTAL NITROGEN (N)	24.0%
1.6% Ammoniacal Nitrogen	
10.6% Urea Nitrogen	
10.8% Water Insoluble Nitrogen	
AVAIL. PHOSPHORIC ACID (P <sub>2</sub> O <sub>5</sub> )	4.0%
SOLUBLE POTASH (K <sub>2</sub> O)	12.0%
Magnesium (Mg)	0.7%
Sulfur (S)	5.0%
Iron (Fe)	0.4%

Derived from ammonium phosphate, isobutylidene diurea, urea, sulfate of potash, sulfate of potash-magnesia and iron sulfate. Potential Acidity 1000 lbs. Calcium Carbonate Equivalent per ton.  
Manufactured by Vigoro Industries, Inc.  
Fairview Heights, Illinois 62205.

Par Ex

Down in the analysis area on every fertilizer bag, you'll find the "fine print" that tells you what the big print doesn't. Read all of it. Carefully. But most importantly, look at the percentage of Water Insoluble Nitrogen.

## Water Insoluble Nitrogen (WIN)... the key to superior turf.

The higher the WIN percentage, the longer your turf will remain green. And the less often you will have to fertilize. That's because WIN is the percentage of total Nitrogen that is truly slow release. Freeing small amounts of Nitrogen each time it's touched by water (Par Ex® with IBDU®) or activated by temperature or bacterial action (competitive products).

## No competitor can deliver as much usable WIN as Par Ex.

Only Par Ex contains IBDU—a unique Water Insoluble Nitrogen source that is 100% available to your turf in a single growing season. Consider that urea formaldehyde products (bacteria and temperature released) contain about one third of their WIN in the form of plastic polymers. Its long-term Nitrogen

release is so slow, it's almost useless, and will most likely occur during the hottest periods, just when you don't want it.

For Sulfur Coated Urea (SCU), research has shown that by the time it is spread, about 50% is immediately soluble, effectively doubling your cost of controlled-release Nitrogen and cutting the benefit in half!

## Be sure to read your bag.

If the percentage of Water Insoluble Nitrogen isn't listed, there isn't any slow-release Nitrogen. If it is listed, chances are it won't be as high as the WIN percentage in Par Ex. Even if it is, we guarantee you that 100% of what we list as WIN is available to your turf every growing season. That means for every six months of growing, you'll receive an additional 46-53% more usable WIN than our competitors can deliver.

So start building your WIN percentage today. Talk to your local Par Ex Representative or call 813/294-2567. And get all the WIN you've been reading about.



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# For a varie

## Fiesta II

Perennial Ryegrass

This advance generation turf-type perennial ryegrass is setting new standards for quality, color, and performance. Its dark green color, fine leaf texture, and environmental tolerance gives you beautiful and functional results, while its high seed count stretches your grass seed dollar. Use Fiesta II straight or in Futura 2000 where it is blended with Blazer II and Dasher II perennial ryegrasses. A genetically superior combination for perennial turf in the North and overseeding in the South.

## BANFF

Kentucky Bluegrass

Banff is a vigorous dwarf variety that was discovered on the Banff Springs Golf Course in Alberta, Canada. There, Banff survived twenty years of continual heavy watering, repeated attacks from snow mold, and close mowing on a putting green. Just imagine what it could do for you. Banff establishes quickly and forms a disease resistant, cold tolerant, dark green turf.

## Touchdown

KENTUCKY BLUEGRASS

Since Touchdown's discovery by the late Tom Rewinsky on the National Golf Links of America on Long Island, this elite bluegrass has become the top choice of sod producers. Its aggressive growth habit and rapid establishment crowds out weeds and Poa annua while developing an even, dark green turf.



Mustang is the tall fescue that looks like bluegrass. Its finer texture, darker green color, and wear and drought tolerance have made it the choice for sports field, sod, park, and home lawn use. Mustang is available straight or in TEAM – a three-way turf-type tall fescue blend that also contains Maverick II and Thoroughbred.



Colt is an Oregon produced variety that offers you domestic seed production benefits. It combines superior turf performance and turf quality with genetic adaptation to North American growing conditions. It is dark green, shade tolerant, disease resistant, and very winter hardy. Colt is a vigorous, low-growing variety that has excellent overseeding qualities.



For the fourth consecutive year Victory was the highest rated commercially available chewing fescue in the national Fine Fescue Trials. Victory is a low growing, shade tolerant variety that has possibly the darkest green color of any other chewing fescue. It exhibits superior uniformity and disease resistance, too. If you like picking winners, pick Victory.

# ty of reasons.



## CROSSFIRE TURF-TYPE TALL FESCUE

Crossfire turf-type tall fescue is the only strategy you need for battling a summer ambush of heat and drought. Crossfire is a lower and slower growing variety of tall fescue that exhibits a very dark green color. It combines improved heat and drought tolerance with outstanding turf quality to produce a dense and durable turf. Crossfire's high marks in overall performance during its initial evaluation proved it was ready for the field. Let Crossfire show you how to endure a long summer siege.

## SPARTAN HARD FESCUE

Spartan is a robust, advanced generation of hard fescue that is dark green, leafy, and persistent. It demonstrates excellent cold tolerance and creates attractive, low growing, low maintenance turf. Spartan mixes well with perennial ryegrass, Kentucky bluegrass, and other fine fescues. It is an outstanding component in many shady and low maintenance mixes suited for use on home lawns, parks, and golf course roughs.

## AMERICA KENTUCKY BLUEGRASS

America is a low maintenance Kentucky bluegrass that has a dense dwarf growth habit, dark green color, excellent disease resistance, and good shade tolerance. Perfect in mixes, America is ideal for golf course fairways, sod production, playing fields, and home lawns.

Pickseed also produces the following quality turfgrass varieties: Agram chewing's fescue, Jasper creeping red fescue, Jazz perennial ryegrass, Alpine Kentucky bluegrass, Exeter colonial bentgrass, and National creeping bentgrass.

## SHORTSTOP TURF-TYPE TALL FESCUE



Shortstop is the little guy with big benefits. As its name implies, Shortstop is a slower and shorter growing variety of turf-type tall fescue. But don't let its stature fool you. Shortstop is plenty tough. It has heat and cold tolerance, disease resistance and is widely adapted. Shortstop forms a beautiful, dense, uniform turf of finer, darker green leaves.

## BRONCO Kentucky Bluegrass

Bronco is a very wide bladed Kentucky bluegrass that was developed specifically as a mix companion for turf-type tall fescue. While its texture and color gives it the appearance of a tall fescue, the comparison between the two ends there. Bronco is elite Kentucky bluegrass all the way. Its been bred to be less dense so it won't crowd out tall fescue and yet still aggressive enough to fill in and repair damaged areas quickly. That's what makes Bronco ideal for sports turf use.

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## Death claims Brickman Industries' founder Theodore Sr.

LONG GROVE, Ill. — The year 1989 has claimed its second landscaping giant with the death of Theodore W. Brickman Sr.

Brickman, founder of the award-winning Illinois-based landscape firm that bears his name, passed away at 82 years of age on Aug. 2. Though he had been inactive in the company for the last 15 years, he remained Chairman of the Board until his death.

The Brickman Group Ltd. bills itself as the country's largest design-build and horticultural management organization. It is now owned by Theodore "Dick" Brickman Jr.

"He was kind of a spiritual leader up until about a year ago," says Dick. "Even though he was largely inactive, there's still an emptiness."

The senior Brickman, a native of Ontario province,



T.W. BRICKMAN, SR.  
1907-1989

Canada, founded the company in 1939. Though it was not in operation during World War II, it rebounded and blossomed in the 1960s and 1970s. Its seven offices now serve the Midwest and eastern corridor from Boston to Florida. The company has won more than 100 national, regional and local awards for its landscapes.

"From day one, he and I became equal partners," Dick remembers. "As a father, he was willing to step back and let us younger people take the reins. I hope I have as much wisdom when it's time to let the younger people in our organization step in for me."

Further remembering his senior, Dick notes: "(My father) lived a good, full, useful life and touched a lot of people."

Earlier this year, death claimed John Moulder, one of the founders of Moulder Brothers Inc., a California landscaping giant. □

### BIOTECH from page 11

Expedite pesticide application system earlier this year.

"Expedite fits strategically into our philosophy," says Dr. Dave Duncan, director of greens business.

The Expedite system includes various herbicides and an exclusive "lance" manufactured in England which will be distributed worldwide by Monsanto.

"We believe we can reduce pesticide exposure (to the applicator) substantially," notes Monsanto district manager Jerry Steiner.

"And the hand-held unit is just the starting point."

Adds Dr. Duncan: "Expedite will fuel the (Monsanto) machine for more new products. It's very critical to our plans."

Landscape managers sold on Expedite include Vicki Phillips of the St. Paul (Mo.) Department of Parks and Recreation and Paul Norman of Washington University.

"Expedite is just amazing," Phillips says. "You hook it up, you put it on your back and you go." □

*New*

## TURF TYPE TALL FESCUES

Now, more than ever, the choice of professionals and homeowners

Join the rapidly growing number who select Tall Fescue for:

- richer, darker, dense green turf
- requires low maintenance
- adaptable to a wide variety of soils
- achieves healthy, full growth in all normal climate conditions
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- tolerance to heat and drought
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- year-round beauty and performance

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*Spurge*

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broadleaf weed control.  
New Gallery.™**

Look closely. This may be the last time you'll see these broadleaves on display.

Elanco introduces the unique preemergence broadleaf weed control for golf courses. New Gallery 75DF. An original work of art. And science. With a new chemistry so advanced, it outdates postemergents, saving you time and labor costs.

The Gallery collection includes 44 of your toughest broadleaves such