### Briefs



#### HERBICIDES IN RAINWATER

Arecent U.S. Geological Survey study noted traces of herbicides in rainwater samples from 23 states.

Atrazine, alachlor, metalachlor and a degradation product of atrazine were among herbicides detected.

Agricultural pesticide use was believed the main source of the herbicide pollution.

This is the first major study to confirm that pesticides can be transported through vaporization into the atmosphere. Turf applications were not believed to have contributed to the pesticides found in the rainwater samples.

#### **EPA APPROVES GEORGIA UST PROGRAM**

Georgia became the fourth state approved by EPA to run its underground storage tank program in lieu of the federal program.

New Hampshire approval came in June and followed approval of Mississippi, New Mexico and New Hampshire programs.

There are almost 2 million USTs at about 750,00 sites nationwide.

Georgia has an estimated 51,248 underground storage tanks with 1,183 confirmed

The Resource Conservation and Recovery Act (RCRA) authorizes EPA to approve state UST programs to operate in lieu of the federal program. To qualify for final authorization, a state's program must be "no less stringent" than the federal program.

### GCSAA NAMES MCCARTHY

Patricia McCarthy has been named director of administration for the Golf Course Superintendents Association of America.

In her new role she will oversee facilities management, personnel, human resources, financing and data information systems.

Before joining GCSAA, McCarthy served as manager of administration and for regional operations, sales and marketing for Home Box Office Services in Kansas City following a twoyear stint as a HBO account executive.

She also worked for Trans World Airlines for 20 years before starting at HBO.

McCarthy holds bachelor's and master's degrees in business administration from the University of Missouri-Kansas City.

#### HAGUE HONORED FOR OPEN WORK

CHASKA, Minn. — Chris L. Hague, course superintendent of Hazeltine National Golf Club, was cited for his excellent work in preparing the course for the recent 1991 U.S.

Stephen G. Cadenelli, Golf Course Superintendents Association of America president, made the plaque presentation on behalf of the GCSAA.

Among those attending the annual GCSAA member reception were Robert Trent Jones Sr. and Jr., golf course architects; Ray Anderson and Judy Bell, USGA executive committee members, and Thomas C. Fischer, Minnesota GCSA president.

### International finds a way for a 'perfect match'

A leader of the sod growing industry says it is a story eligible for Ripley's Believe It or

A seed company president feels it may be the beginning of a trend among older golf

The superintendent of the golf course says it plainly makes sense.

International Tennis and Country Club in Fairfax, Va., has contracted with Summit Hall Turf Farm in Poolesville, Md., to grow four acres - that's 170,000 square feet - of bentgrass sod on a U.S. Golf Associationapproved soil mix that exactly matches the course's rebuilt greens.

"This way, all our greens, when we sod them, will have exact matches as far as the mix the sod was grown on and the mix for the greens. We used the same materials, because we're looking for an exact match," said In-

Continued on page 18



A crew from Chantilly Turf Farms, Inc. lays bluegrass sod on the perimeter of the 13th green at International Town and Country Club. Chantilly, a subcontractor to John Ponko Inc., will put down bentgrass sod on the greens. Chantilly grew the bluegrass sod, while Summit Hall Turf Farm grew the bentgrass.

### Top-ranked varieties in National Ryegrass Test

Name *PST-2PM (Saturn) *PST-M2E (Man. II W/E) *SR 4000 *PICK 300 (Blazer 1 1) *PST-259 (Commander) *SR 4100 *PST-247 (Dimension) *REPELI *PICK 600 (Fiesta 1 1) *Omega 1 1 *PICK 647 (Riviera) *PENNANT *MANHATTAN 1 1 *PST-250 (Competitor) *PST-2HH (Charger) *PICK 715 (Edge) *PALMER *PICK 233 (Dasher 1 1) *CITATION 1 1 * ISI-851 (Lindsay) PST-2DD *PRELUDE *GATOR *ALLAIRE PSU-3.3.3 *KVVS-AL-2 (Aquarius) *CALIENTE *GOALIE *TARA	DC1 5.0 4.4 2.9 5.3 4.1 3.3 5.3 3.2 3.2 3.2 3.2 4.9 4.2 4.4 2.8 2.9 5.8 2.9 2.3 3.4 3.1 4.5 5.1 3.3 4.5 5.1 3.3 4.5 4.1 4.5 4.5 5.1 4.5 5.1 4.5 5.1 4.5 5.1 5.1 5.1 5.1 5.1 5.1 5.1 5.1 5.1 5	6.2 6.3 6.6 6.3 6.3 6.3 6.3 6.3 6.3 6.4 6.8 5.9 6.2 5.5 6.2 5.5 6.2 5.5 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3	II2 IN1 7.2 7.0 6.8 7.3 7.0 6.8 7.3 7.0 6.8 6.9 7.2 7.1 6.9 6.7 6.6 7.0 6.9 6.7 6.9 6.3 7.1 7.2 6.8 6.8 6.8 7.1 6.8 6.8 6.9 6.4 6.7 6.6 6.6 6.5 6.9 6.7 6.9 6.7 6.9 6.7 6.9 6.7 6.9 6.7 6.9 6.7 6.9 6.7 6.9 6.8 6.8 6.8 6.9 6.8 6.8 6.8 6.9 6.9 6.7 6.9 6.7 6.0 6.6 6.0 6.7 6.0 6.8 6.1 6.1 6.1 6.2 6.5 6.5 6.5 6.5 6.5	KY1 6.8 7.2 7.3 6.8 7.2 7.1 7.3 6.9 7.3 7.3 6.5 6.6 6.6 6.7 6.7 6.7 6.8 6.6 6.7 6.7 6.8 6.8 6.6 6.7 6.8 6.8 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6	MD1 5.5 5.7 6.2 5.7 5.0 4.8 6.0 5.2 5.4 8.2 5.7 5.3 6.3 5.5 7.5 8.7 5.3 5.5 5.7 5.3 5.5	MII 5.9 5.4 6.3 5.7 5.2 6.3 5.4 5.4 5.4 5.5 5.0 6.0 5.3 5.4 4.9 3 5.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.5 8.3 5.2 5.2 5.5 8.3 5.2 5.2 5.5 8.3 5.2 5.2 5.5 8.3 5.2 5.2 5.5 8.3 5.2 5.2 5.5 8.3 5.2 5.2 5.5 8.3 5.2 5.2 5.5 8.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.2 5.3 5.2 5.2 5.3 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2	MO1 5.7 5.8 5.8 5.8 5.0 6.5 5.3 5.5 5.5 5.2 7 4.8 7 5.3 3.3 3.3 3.5 3.4 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	NE1 6.2 5.5 6.0 6.2 5.7 5.8 6.3 5.7 6.5 8 5.8 5.7 5.8 5.8 5.7 5.8 5.8 5.7 5.8 5.8 5.7 5.8 5.8 5.7 5.7 5.8 5.7 5.7 5.7 5.7 5.7 5.7 5.7 5.7 5.7 5.7	NJ1 6.3 6.3 6.3 5.4 5.6 6.1 5.2 5.8 6.5 5.5 7 4.8 5.5 5.5 5.0 6.0 5.0 6.0 5.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	NJ2 6.8 6.5 6.9 6.7 7.2 6.6 6.3 6.3 6.3 6.3 5.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	NYI 4.8 4.8 5.3 5.2 4.8 5.3 5.4 5.0 5.1 5.1 5.1 5.2 5.3 5.4 5.3 5.4 5.3 5.1 5.1 5.1 5.2 5.3 5.4 5.3 5.4 5.3 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	8.0 7.0 6.3 7.3 7.0 6.7 7.0 6.7 7.0 6.7 6.3 7.0 6.3 6.3 6.3 6.3 6.7 7.0 6.3 7.0 6.3 7.0 6.3 7.0 6.3 7.0 6.3 7.0 6.3 7.0 6.3 7.0 6.3 7.0 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3	OR1 6.1 6.9 6.1 6.6 5.7 6.8 5.7 6.8 5.5 6.6 6.0 7.0 1 6.0 1 5.8 7 5.8 6.0 7 6.0 1 6.0 6.0 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1	OR2 5.9 6.2 6.1 6.3 6.1 6.3 6.1 5.9 6.6 6.3 6.1 5.9 6.3 6.4 5.7 6.1 5.9 6.3 6.4 5.9 5.5 6.4 5.9 5.5 6.4	RII 6.9 7.2 7.1 6.7 7.0 6.6 7.3 7.4 6.7 6.9 6.8 6.7 6.9 6.8 6.7 6.9 6.8 6.7 6.9 6.8 6.7 6.9 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	SDI 6.2 6.3 6.7 6.6 6.1 6.3 6.5 6.9 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.3	UB1 7.3 7.1 7.2 4.4 7.7.0 6.8 5.0 6.4 7.8 7.1 7.4 5.6 6.1 7.4 5.6 6.1 7.4 6.8 7.1 7.4 6.8 7.1 7.4 7.4 7.4 7.4 7.6 6.1 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	4.7 6 4.9 6 4.7 6 4.9 6 4.8 6 5.0 6 4.7 6 4.8 4.7 4.6 4.8 4.7 4.6 4.8 5.0 4.8 5.0 4.7 4.9 4.8 5.0 4.8 4.7 4.9 4.8 4.7 4.9 4.8 5.0 4.7 4.9 4.8 4.9 4.8 5.0 4.7 4.9 4.9 4.8 4.7 4.9 4.8 4.7 4.9 4.8 4.7 4.9 4.8 4.7 4.9 4.9 4.8 4.7 4.9 4.8 4.8 5.0 4.7 4.9 4.8 4.8 5.0 4.8 4.7 4.9 4.8 4.8 4.7 4.9 4.8 4.8 4.7 4.9 4.8 4.8 4.7 4.9 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.8 4.8 4.7 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8	6.2 6.2 6.1 6.1 6.1 6.1 6.0 6.5 6.9 6.5 6.9 6.5 6.9 6.5 6.9 6.5 6.9 6.5 6.9 6.5 6.9 6.5 6.9 6.5 6.9 6.5 6.7 7.7 7.5 6.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7
*ALLAIRE PSU-333 *KWS-AL-2 (Aquarius) *CALIENTE *GOALIE	4.5 5.1 3.3 5.1 4.4	5.8 5.8 6.1 5.8 5.9 6.6	6.7 6.9 6.9 6.8 6.1 6.1 7.2 6.6 7.5 6.7	6.7 6.5 6.3 6.6 6.4	5.7 5.8 4.7 5.7 5.3	5.3 5.2 5.5 4.8 5.3	5.0 5.0 5.0 5.3 5.2	6.0 5.8 5.5 5.7 5.6	5.0 5.0 6.1 5.0 5.5	6.6 5.6 6.5 4.9 5.7	5.0 5.0 4.4 4.4 4.7	6.7 7.0 7.0 6.3	5.8 5.1 6.5 5.3 5.0	5.9 5.5 6.9 5.4 5.2	6.4 6.5 6.3 6.2 6.7	6.1 6.3 7.3 6.1 6.7	4.8 4.6 3.7 6.2 4.6	4.2 4.7 4.4 4.7 4.8 4.6	5.7 5.7 5.7 5.7 5.6
*PATRIOT  *BIRDIE 11 PSU-222  *RODEO  *BAR LP 410 (Barrage)  *246 LSD VALUE	4.4 3.3 4.7 4.7 4.1 4.3 1.9		6.9 6.6 6.9 6.7 6.6 6.7 6.3 6.4 6.6 6.7 5.8 6.5 0.9 0.4	6.5 6.6 6.7 6.4 6.8 6.6 0.6	4.8 5.7 5.7 5.0 5.3 6.0 1.1	5.1 4.8 5.2 5.2 4.6 4.8 0.6	5.5 5.5 4.7 5.0 5.7 5.7 1.4	5.8 5.7 5.8 5.8 5.3 5.8 0.7	4.6 4.8 5.0 5.0 3.9 4.5 1.0	5.4 5.2 5.0 5.7 4.3 5.3 1.0	4.9 4.9 5.0 4.8 4.8 4.3 0.6	6.7 5.7 6.7 7.0 7.0 6.0 1.0	5.2 5.3 5.6 4.9 5.8 5.3 5.8 0.7	5.0 5.9 5.4 5.8 5.7 5.4 0.5	6.6 6.4 6.8 6.7 6.5 6.2 0.7	6.6 5.8 6.6 6.3 5.9 0.5	5.2 6.8 4.4 3.9 6.4 7.0 1.3	4.4 4.7 4.6 4.3 4.9 4.6	5.6 5.6 5.6 5.6 5.6 5.6 5.6

### Dramatic improvements reported in ryegrass varieties

Scientists have caused dramatic improvements in ryegrasses the last four years, but the future should be even more historic, according to the national director of the U.S. Department of Agriculture's National Tuyrfgrass Evaluation Program.

Kevin Morris said a number of the best experimentals, seeded last fall for the next series of national tests, are "far superior to the best entries in this latest group."

New varieties are mainly lower-growing, darker green, denser, he said.

Meanwhile, he said final results for the four years of tests will be released in late summer or early fall.

Jim Snow, national director of the U.S. Golf Association Green Section, said the most striking change in ryegrasses is that so many now contain endophyte, a natural fungus that makes the grass resistant to chewing and sucking

Snow pointed out one ironic fact about ryegrasses: Ryegrass is the highest selling turfgrass at golf courses nationwide because

\* — Brands available on the marketplace.

Locations submitting data for the National Perennial Ryegrass Test follow, with their code names, type of soil, nitrogen in pounds per 1,000 square feet, mowing height in inches, and irrigation

DC1: Washington Monument grounds; loam; 1.1-2.0; 2.1-2.5; no irrigation.

ID2: Post Falls, Idaho; silt loam and silt; 2.1-3.0; 1.1-1.5; to prevent stress

II.2: Carbondale, Ill.; silty clay and clay; 4.1-5.0; 2.1-2.5; to prevent stress. IN1: West Lafayette, Ind.; silt loam and silt; 3.1-4.0; 2.1-2.5; to prevent stress.

KY1: Lexington, Ky.; silt loam and silt; 2.1-3.0; 1.6-2.0; no irrigation.

UB1: Beltsville, Md.; loam; 2.1-3.0; 1.1-1.5; to prevent dormancy

MD1: Silver Spring, Md.; sandy loam; 3.1-4.0; 2.6-3.0; to prevent dormancy.
MI1: East Lansing, Mich.; sandy loam; 2.1-3.0; 1.6-2.0; to prevent stress.
MO1: Columbia, Mo. (mechanical wear applied spring and fall); silty clay loam; 2.1-3.0; 2.1-2.5; to prevent stress.

NE1: Lincoln, Neb.; N/A.

NJ1: North Brunswick, N.J.; loam; 4.1-5.0; 1.1-1.5; to prevent stress.

NJ2: Adelphia, N.J.; sandy loam; 5.1-6.0; 1.6-2.0; to prevent dormancy

NY1: Ithaca, N.Y.; sandy loam; 2.1-3.0; 1.6-2.0; to prevent dormancy.

OH2: Marysville, Ohio; silty clay loam; 3.1-4.0; 1.6-2.0; only during severe stress. OR1: Hubbard, Ore.; silt loam and silt; 4.1-5.0; 1.1-1.5; to prevent dormancy.

VA1: Blacksburg, Va.; silt loam and silt; 3.1-4.0; 1.6-2.0; only during severe stress.

OR2: Corvallis, Ore.; silty clay loam; 4.1-5.0; 1.6-2.0; to prevent dormancy.

RI1: Kingston, R.I.; silt loam and silt; 3.1-4.0; 1.1-1.5; to prevent stress. SD1: Brookings, S.D.; silty clay loam; N/A; 2.1-2.5; to prevent stress.

it is so often used for overseeding. For that reason, superintendents in the South "may not want such a good grass. They don't want it to hang on and set back the transition from

rye to Bermudagrass in the spring."

Morris agreed, saying, "Some Southern superintendents are using older varieties because they know they won't stick around in the spring."

Snow said a superintendent should "base his decision on his specific purpose."

### International, Summit Hall team up on 4-acre bentgrass plot

Continued from page 15

ternational superintendent Steve Nash.

Nash said he spoke with several superintendents who were "not quite happy with the match of mixes" they had received in their own greens rebuilding programs.

"The mixes were just a little bit off and they were afraid they were getting a layering effect," he said. "This was a guarantee on our part that we will have the exact same stuff...

"USGA mixes are basically supposed to be the same but there are minor differences different sand or sphagnum, for instance."

Doug Fender, executive director of the American Sod Producers Association, said from his Rolling Meadows, Ill., headquarters: "There have been occasions where contract growing has occurred. But four acres is a considerable operation. In most cases two to four greens (or 10,000 to 20,000 square feet) is all that's involved. And most of it is grown on existing soils. What strikes me is the degree of specification - taking it from the

"I'd put it right up there in Ripley's Believe It or Not."

Fender added: "Summit Hall has an excellent reputation and history. This would not be the first challenge they've done well with."

Mike Robinson, president of Seed Research of Oregon, whose SR 1019 and SR 1020 bentgrasses are being used in the project, said: "I think this is the first of what will be a



The first sod is cut from four acres of bentgrass at Summit Hall Turf Farm in Poolesville, Md. "It was "beautiful," said International Tennis and Country Club superintendent Steve Nash.

"Most of the older courses in this country were built on old native soil. They're mainly poa annua. They're fighting the poa annua constantly. They have heavy fungicide budgets and it's a real headache for them. If they can rebuild their greens with sand bases and put in brand new germplasm, it's going to be a tremendous improvement in management

 lowering costs of fertilizer and fungicides and water. Keeping bent alive in the summer is a lot easier than poa annua. Playability will also be improved.'

The 30-year-old International greens were rebuilt "because we had no drainage whatsoever," Nash said. "The greens were just pushed-up topsoil. Some were extremely small. Some were small with severe contours that limited our cupping area. We were doing upwards of 50,000 rounds of golf a year and were wearing the greens out. With no drainage, a storm would soak the greens and, with all those golfers, they would turn to mud.

"To keep up to date with modern golfing play and technology we just had to rebuild."

#### **EXTENSIVE PREPARATIONS**

The massive project was started last September when 70 tandem trucks hauled 1,500 tons of soil mix to Summit Hall's farm. (The \$40,000 price tag was borne by International, which will probably pay another \$60,000 or so for the sod, according to Nash.)

The soil mix was carefully spread at a

T'd put it right up there in Ripley's Believe It or Not.'

— Douglas Fender American Sod Producers

depth of two inches over a four-acre tract of a flat land. The seed was sown in the fall to avoid weed encroachment and to give the bentgrass time to cover the ground by spring.

Frank Wilmot, manager of Summit Hall, said: "The soil mix was sterilized coming in and has gone without herbicides. The idea is to get a good root system. Steve can take care of any weeds once he gets the sod, but it's pretty clean.

"We're mowing at three-eighths inch just above green height — two to three times a week ... and we've been watering about twice a week depending on the weather."

A week before shipments of the sod were to begin, Nash said: "We just cut five pieces. It came up absolutely beautiful. We couldn't have wanted it any better."

Nash also couldn't be happier with the speed of the project. Under the oversight of architect Bill Love of Ault, Clark Associates, the greens were torn up on June 10. The perimeters of the greens were sodded with bluegrass from Ray Weekly's nearby Chantilly Turf Farms, Inc. starting Aug. 12. And the sodding is expected to be complete by Sept.

"One of our objectives was to get it playable as soon as possible," Nash said. "We were pressed for time. We had to hold off in the spring for tournament play on temporary greens and to give members some play. We'll hold off play until the end of next March."

What will happen to the four-acre sod site once all International's sod is hauled away?

"We'll take one-quarter to one-half inch of the root system when we harvest the turf," Wilmot said. "We'll probably then work sand into the soil underneath and bring in more sand mix for another harvest.

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