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products, at an open house at the Horicon works Sept. 17-18. The company has introduced more than 100 new products in the consumer division in the last five years.

Deere was once known strictly as a tractor manufacturer. Mark C. Rostvold, vice president of consumer products recalls, "I was at a golf course in Los Angeles recently. A young man at the course heard I was from Deere and came up to me and said, 'John Deere—you're the lawn mower people.' Such has been the growth in that division."

Rostvold notes that outdoor power equipment industry sales double about every five years. Which is why Deere has been heading in that direction. According to Raymond E. Gregg, general manager of the Horicon Works, last year consumer products accounted for \$700 million of the company's \$3.5 billion in sales. Horicon operations accounted for two-thirds of that \$700 million.

The Horicon operation has put into practice a number of measures to keep manufacturing costs down. They include computer-aided design and manufacturing of equipment; timely delivery of parts to reduce inventory; and a computer-controlled,

timed automatic guided vehicle system which basically carries each vehicle to the next assembly station for further construction, instead of a traditional assembly line operation.

To keep up with the company's expansion in consumer markets, in 1987 Deere has or is adding about 1,000 more dealers to its network of 3,000 dealers in North America.

PEOPLE

A.A.N.'s Lederer passes away at 59

Robert F. Lederer, executive vice-president of the American Association of Nurserymen, died Sept. 26 in Fairfax, Va. following heart surgery. He was 59.

Lederer joined the A.A.N. staff in February, 1959, serving as an administrative assistant. In 1965, he was named executive vice-president. He had planned to retire in August, 1988.

A close ally of Lady Bird Johnson



Lederer

during the First Lady's National Beautification Program in the 1960s, Lederer more recently served as vice-president of the board of the National Wildflower Research Center, which Mrs. Johnson founded.

Lederer's most recent professional activities were chairman of the Washington Youth Gardens Council and chair of the National Council for Therapy and Rehabilitation Through Horticulture steering committee.

REGISTRATIONS

Elanco names EL-107 Gallery and Snapshot

"Gallery" will be the trade name for the 75 percent dry flowable formulation of a new product from Elanco. The pre-emergence broadleaf herbicide was known during testing as EL-107. The compound's active ingredient, isoxaben, represents a new chemistry, says the company. "We feel quite confident with this formulation," notes Benny Eaton, Ph.D., project manager for Gallery.

Elanco expects EPA approval for Gallery 75DF and technical isoxaben by next fall. Approval for the second main product, "Snapshot," with

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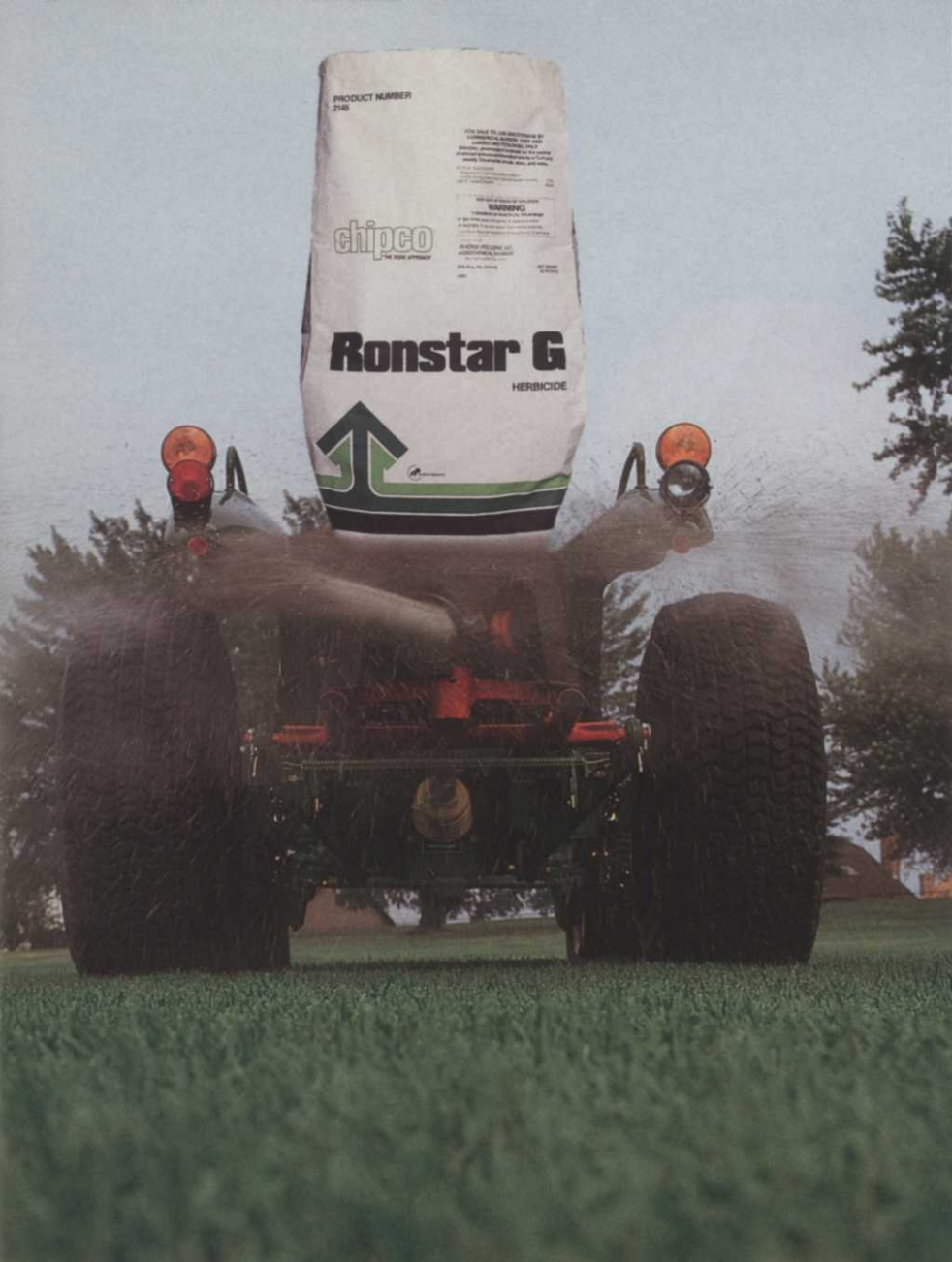


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Unlike most turf herbicides, CHIPCO RONSTAR herbicide controls weeds without harming turfgrasses. In fact, tests prove that CHIPCO RONSTAR herbicide will not cause the root pruning problems associated with other products.

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The Greensmaster[®] 3000 Ca

In your game, the best way to score points is with greens in tournament-standard condition. That's why, where you see the best greens, you'll see a riding Greensmaster from Toro.

No matter what your height-of-cut requirements are, the Greensmaster 3000 gives you cutting versatility from as low as 3/32" up to 11/16". Just what you need to cut your greens to tournament standards and deliver a precision cut to aprons and tees as well. And that's a measurable difference over the competition.



Choice of Cutting Units and TORO's Variable Speed Kit.

What makes the precision cutting of the Greensmaster 3000 possible? The correct choice of cutting blades for your desired height-of-cut. Our 5, 8 and 11 blade cutting units give

you the capacity to cover the entire height-of-cut range for the truest ball roll of all. This precision cutting is achievable in combination with Toro's exclusive Variable Speed

Kit. It allows you to select a consistent ground speed while maintaining a constant, even clip.

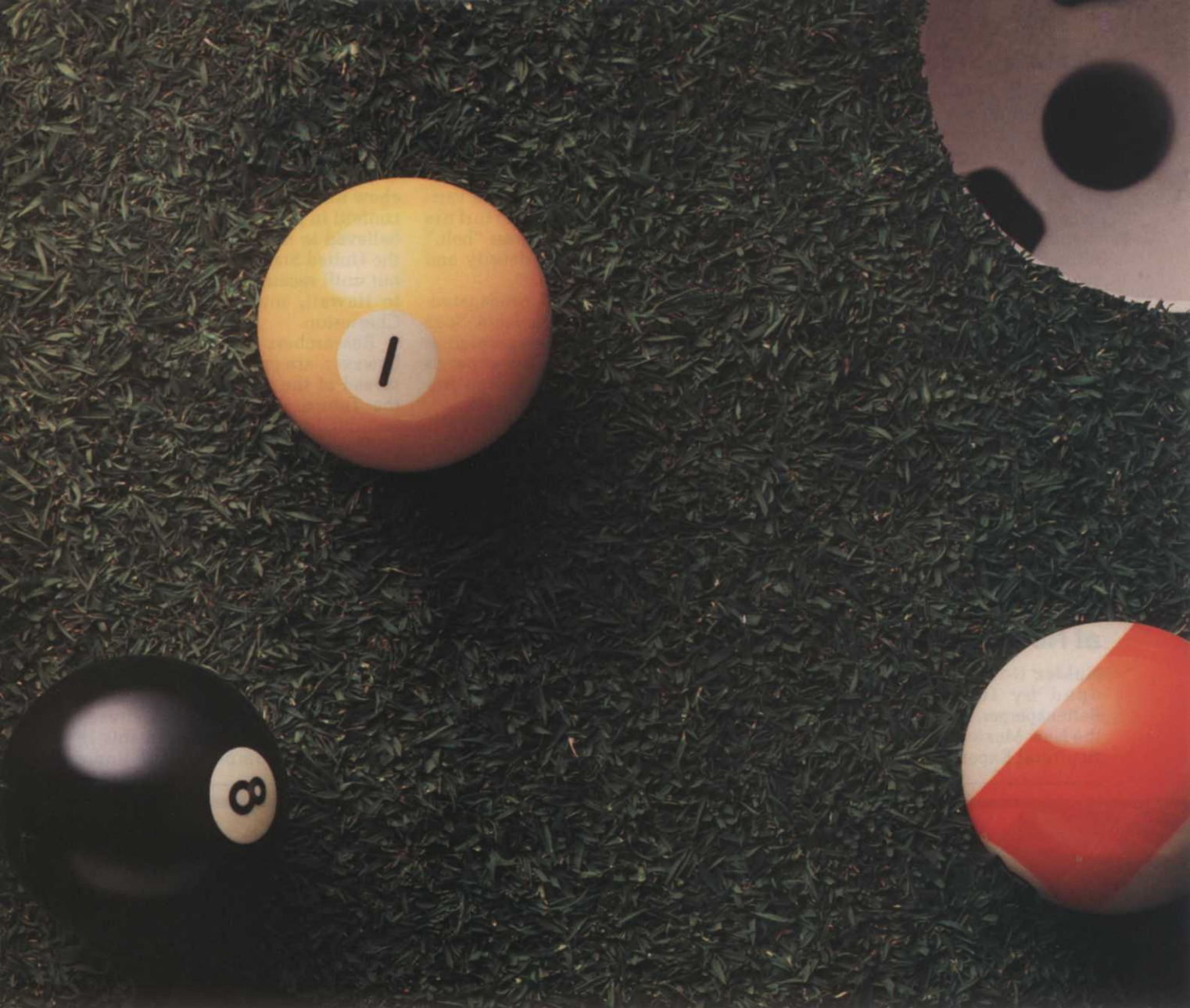
Another exclusive feature for varying cutting conditions.

The Greensmaster 3000 also features an exclusive cutting unit attitude leveling adjustment through its rear roller. This lets you set the correct attack angle of the bedknife for varying cutting conditions or cutting heights.

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Kit you can easily change your height-of-cut to 5 different levels. Each flip of the handle alters the height-of-cut by .100 inch within a total range of 1/2" above the cutting unit "bench setting."

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This standard feature is anything but standard. It ensures a consistent cut around uneven terrain such as edges of greens, tees, aprons and fairways.

For further versatility and productivity, Toro provides a full range of bed-

knives, rollers, combs and brushes. Plus options that include backlapping, direct suspension, thatchers and spikers. Put them all together and you can see why more Golf Course Superintendents from around the world depend on the riding Greensmaster from Toro than any other riding greensmower. And why you should, too.

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Contact your local Toro distributor



for additional information or a demonstration. Or write The Toro Company, Commercial Marketing Dept./GR3, 8111 Lyndale Ave. So., Minneapolis, Minnesota 55420.



The professionals that keep you cutting.

formulations of 80DF (20 percent isoxaben and 60 percent oryzalin) and granular (isoxaben plus trifluralin in a ratio of 1:5) is expected in the first part of 1989.

All formulations have shown excellent results in over-the-top treatments of woody ornamentals in warm climates. In particular, application rates of 1 lb. active ingredient isoxaden plus 3 lbs. of Surflan (oryzalin) have shown excellent results.

EL-107 has broad spectrum control over 45 broadleaf weeds. It exhibits suppression of some grassy weeds, though it's not recommended for this task. The product works on germinating weed seed which normally occur in the top two centimeters of the soil.

Elanco had previously named EL-107 "Encore," but ran into trademark problems.

RESEARCH

New bermudagrass at New Mexico State

NuMex S-1, a bermudagrass developed by turf breeder Arden Baltensperger, has been released from the New Mexico State University Agricultural Experiment Station.

The variety has shown good spring and summer color. Performance tests indicate better growth and appearance than common varieties used in the Southwest.

Baltensperger notes that the variety can be applied for general turf use throughout the bermudagrass "belt." It has medium texture, density and plant height.

The variety is seed propagated. Some breeder seed is available. Seed increase will be on a three-generation basis and grown under the supervision of the New Mexico Crop Improvement Association.

INSECTS

Termites, roaches enter 'green' picture

Formosan termites and Asian cockroaches, two relatively new but troublesome household pests, are riding the green industry to new homes.

Mike Chambers, a researcher at Clemson University, says that Formosan termites traveled the 12 miles from Charleston, S.C. to the posh Isle of Pines on used railroad ties incorporated into a landscape there. Used railroad ties brought up from the

Gulf Coast are being blamed for an infestation in Auburn, Ala., as well.

The Formosan, which has the ability to make nests in walls and ceilings of structures as well in the soil, can chew untreated wood structures into confetti in just a few short years. It is believed to have been introduced to the United States about 40 years ago, but until recently had been confined to Hawaii, southeast Florida and Charleston.

Researchers in Gainesville, Fla., however, are predicting a more rapid spread of the Asian cockroach from the Tampa area where it was first identified in June, 1986.

This species of cockroach is almost identical to the common household German roach except it can fly and lives outdoors as well as indoors. And that's where the green industry comes in.

Dr. Richard Brenner, a researcher at the Insects Affecting Man and Animals Laboratory in Gainesville, says Asian cockroaches have been found in sod grown in the Tampa area and transported elsewhere in the Southeast.

Florida exterminators are already offering outdoor lawn treatments in response to complaints of home



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103	117	131	145	159	173	187	201	215	229	243	257	271	285	299	313	327
104	118	132	146	160	174	188	202	216	230	244	258	272	286	300	314	328
105	119	133	147	161	175	189	203	217	231	245	259	273	287	301	315	329
106	120	134	148	162	176	190	204	218	232	246	260	274	288	302	316	330
107	121	135	149	163	177	191	205	219	233	247	261	275	289	303	317	331
108	122	136	150	164	178	192	206	220	234	248	262	276	290	304	318	332
109	123	137	151	165	179	193	207	221	235	249	263	277	291	305	319	333
110	124	138	152	166	180	194	208	222	236	250	264	278	292	306	320	334
111	125	139	153	167	181	195	209	223	237	251	265	279	293	307	321	335
112	126	140	154	168	182	196	210	224	238	252	266	280	294	308	322	336
113	127	141	155	169	183	197	211	225	239	253	267	281	295	309	323	337
114	128	142	156	170	184	198	212	226	240	254	268	282	296	310	324	338

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INSECTS from page 16

owners who are being driven from their backyard barbecues by these Asian cockroaches, which have the annoying habit of taking flight just about sundown.

RESEARCH

Thick lawns appear to limit runoff speed

Thick lawns may well limit pesticide runoff, according to research being conducted by Dr. Tom Watschke at Penn State University.

"Thick lawns slow the velocity of runoff and allow the water to infiltrate," he notes. Infiltration into the ground is more desirable than runoff because microbes in the soil help break down the chemicals into harmless materials, he also says.

In one of Watschke's experiments, a sodded plot without soil patches showing through registered a rate of 1/2-gallon per minute runoff. On the other hand, another plot that was thinly seeded with a lot of bare spots registered a rate of 7 1/2-gallons per minute runoff.

"The next step will be to add commercially available registered pesticides and nutrients to study their effects," Watschke claims.

BIOTECHNOLOGY

Pathologist 'in dutch' over a possible cure for Dutch elm

A researcher at Montana State University ignored federal regulations by injecting 14 elm trees with a genetically-altered bacteria.

Calling the regulations "ludicrous," plant pathologist Gary Strobel, Ph.D., injected the bacteria as part of an experiment to find a preventive treatment for Dutch elm disease.

He filed for EPA approval to conduct the experiment, but did not wait for an answer because it would have meant delaying his experiment a year.

Reaction to Strobel's action has been mixed within the industry. Harvard professor emeritus Bernard D. Davis, a bacterial physiologist, told the *New York Times* that many researchers will "secretly cheer" the action though the ramifications on the industry could be severe. While Davis was confident that Strobel's experiment was safe, he said "the law is the law."

EPA has yet to take any action against Strobel, but is evaluating the situation. Punishments could range from a warning letter to civil fines or even a prison sentence.

Biotechnology critic Jeremy Rifkin announced that he would file petitions with three federal agencies seeking action against "this wanton, deliberate, intentional violation" of guidelines regarding genetic experimentation.

Strobel, commenting to a Montana State University committee investigating the situation, considered the use of genetically altered bacteria "minor." Following the meeting he said, "We can sit and talk about Dutch elm disease or we can do something about it. I chose to do something about it."

The bacterium, of the species *Pseudomonas syringae*, produces an antibiotic that kills the fungus that causes Dutch elm disease. The bacterium is naturally occurring.

GOLF COURSES

Grass carp banned in 28 U.S. states

Grass carp, popular in the landscape market because they eat aquatic weeds, are illegal in 28 states, as of

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ficials at Madison (Wisc.) Maple Bluff Country Club found out recently.

According to a United Press International report, the course was fined \$88 for releasing 150 to 200 of the carp, also known as white amur, in its two ponds. Officials were also planning to kill the fish.

According to the report, the grass carp strip ponds of all vegetation and—more importantly—destroy plant species needed by other fish. Wisconsin law prohibits private introduction of any kind of fish in state waters without a permit.

Grass carp are also banned in Michigan, Indiana, North Dakota and 23 other states.

LAWN CARE

Why lawn care for expansion?

The nation's two biggest lawn care companies, ChemLawn and Tru-Green, were recently sold to Ecolab and Waste Management, respectively (see story, page 40). Why did these new companies venture into the volatile and controversial lawn care industry?

"We thought we could take advantage of our strength in the routing of

trucks," says Bill Plunkett, spokesperson for Waste Management. "We wanted to use our expertise, and the lawn care industry was one of the industries that appealed to us.

"Some of the (controversial) issues did not dissuade us. Waste hauling is one of the most intensely-regulated industries in the country, so we've had experience handling problems relating to public concerns."

The case was much the same for Ecolab.

"We are the leading supplier of premium services to the lodging and food service industries," notes Mike Monahan of Ecolab. "We wanted to enter the residential services market. We felt that ChemLawn had an excellent service force, and a name that we could use in expanding to residential services.

"We took a careful look at the pesticide issues. We were well aware of the concerns of the environmentalists. We view ChemLawn as taking a leadership position in safe application and products, and as trying to communicate that to the public."

Monahan points out that Ecolab has experience dealing with toxic chemicals. Detergents used to "wear-wash" dishes in restaurants and hotels contain phosphates. **LM**

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Statement required by the Act of October 23, 1962, Section 3685, Title 39, United States Code, showing the ownership, management and circulation of LANDSCAPE MANAGEMENT, Publication NO. 08941254, published monthly at 1 East First Street, Duluth, St. Louis County, Minnesota 55802-2067 as filed September 16, 1987. There are 12 issues annually; the annual subscription cost is \$25.00.

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