

BRIEFS



HENKEL TAKES HELM AT INGERSOLL-RAND
WOODCLIFF LAKE, N.J.—Ingersoll-Rand Company announced the election of Herbert Henkel as president and chief operating officer, effective April 5. In addition, Henkel has been elected to the New Jersey-based manufacturing company's board of directors. As part of Ingersoll-



Herbert Henkel

Rand's management succession plan, Henkel, 50, is slated to succeed James Perrella as chief executive officer in October. Perrella will continue as the company's chairman. Henkel comes to Ingersoll-Rand from Textron Inc. where he was president and chief operating officer.

AMERICAN CYANAMID NAMES MILLER AS SENIOR TECH SPECIALIST

PARSIPPANY, N.J. — American Cyanamid, a manufacturer of herbicide and insecticide products for professional markets, announced that Kyle Miller has been named senior technical specialist for the company's professional turf and ornamental products group. Miller will provide technical support for current Cyanamid products including Pendulum herbicide, Amdro Pro fire ant bait, and Image1.5 LC herbicide. He will also provide support for Mach 2 turf insecticide, which is marketed by RohMid LLC, the joint venture between Rohm and Haas and American Cyanamid.

RAIN BIRD'S SHREVE TO MANAGE BRANDS INTERNATIONALLY

AZUSA, Calif. — Rain Bird Golf announced that Mike Shreve has assumed responsibilities as international products brand manager. As brand manager, Shreve will advocate for Rain Bird Golf products internationally. He is responsible for meeting sales goals, providing forecasts and marketing analysis and developing marketing programs for golf promotion worldwide.

HIGGINS TAKES MARKETING COMMUNICATIONS REIGNS FOR PTI

SYLACAUGA, Ala. — Pursell Technologies Inc. (PTI), manufacturer of POLYON fertilizer coating technology, announced the addition of Dr. Jeffrey Higgins as director of marketing. Higgins is responsible for all of PTI's marketing communications activities, including advertising, public relations and sales marketing support.

GOLF COURSE NEWS

10th anniversary
SUPPLIER BUSINESS

Terresolve's soy-based, two-cycle oil ready for market

By MICHAEL LEVANS

CLEVELAND — If it were up to Terresolve Technologies Ltd., maintenance sheds around the country would emit the scent of French fries in lieu of burning petroleum oil.

With funding from the United Soybean Board, Terresolve has formulated a soybean-based 2-cycle, air-cooled engine oil, EnviroLogic 440, that it will begin to market into the golf course industry by mid-1999.

"Soy oil is biodegradable, non-toxic, based on a renewable resource and supports the agricultural industry," said Mark Miller, chief executive officer of Terresolve. "It won't kill the grass and it won't leave a long-term sheen on the water if it seeps into the environment. And when it burns you do get an aroma, we've been told, of French fries."

However, soy oil does tend to break down when exposed to oxygen, one of the

curves the company had to overcome.

"We start out with soy oil and do a few things in house to enhance its performance," said Miller. "There are certain performance chemistries that you have to put in as well that enhance wear protection and oxidative stability."



Terresolve's line up of natural lubricants

According to Miller, these additives consist of other natural esters. "The esters are soy, canola, sunflower. Since we're focused on these bio-based products and we understand what it takes to make them work in industrial applications."

Cost may be a hurdle as it moves 440 to market. According to Miller, the raw materials, the base fluids, are more expensive than petroleum. "But we can get pretty close to the prices, maybe one and a half to two times the price," said Miller. "When you consider a gallon of

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NEW MARKET PLAYER

Ecogen teams with Plant Health Care

LANGHORNE, Pa.—Ecogen Inc., a developer of environmentally friendly, microbial biopesticides, announced that it has entered into an agreement with Plant Health Care, Inc., to distribute four bioinsecticide and biofungicide products for control of caterpillars, grubs, powdery mildew and other pests in non-agricultural markets.

The agreement extends for one to three years depending on the product and market.

The products include AQ10 biofungicide, Crymas WDG Bt

bioinsecticide, Lepinox WDG Bt bioinsecticide and Cruiser, and insecticidal nematode product, packaged in granular or powder form for application as water-based sprays.

"We're delighted to have Plant Health Care as a marketing partner in the U.S. to give us a presence in these major non-agriculture markets," said James Reilly Jr., Ecogen's chairman and chief executive officer. "We expect that the efficacy and ease of delivery of our products will enable us to make inroads in these markets."



NEW PRODUCT OF THE MONTH: SWEEP EX

The SweepEx broom is now available as a riding mower attachment kit. This efficient mounted broom makes for fast grounds cleanup and generates minimal dust and flying debris. This makes it safe to use around moving vehicles and pedestrians and extends the life of the mowing equipment versus a rotary broom-style attachment. The mounted broom can be used year round to clear debris, leaves, water, snow and mud. Bristles are made of durable polypropylene. Brush sections can be replaced by simply detaching the end protectors. Widths range from 4'-9'. The SweepEx mounts to riding mowers, utility vehicles, pick-ups, skid steers, buckets, fork lifts and tractors. No hydraulics required. For more information, contact 800-725-8377.

PINTO IS TEXTRON'S PICK FOR EUROPE

PROVIDENCE, R.I. — Harold Pinto has been named managing director of Textron Turf Care and Specialty Products-Europe. Pinto has responsibility for manufacturing operations and sales facilities in England, Germany, France, Italy and Australia.



Harold Pinto

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Metallic Power

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The reaction takes place in the presence of potassium hydroxide, the liquid electrolyte found in alkaline disposable batteries.

"In a lead/acid battery you're using the lead/hydrogen reaction. In this you're using the zinc/oxygen reaction which generates electrons," said Dana Lang, director of advanced turf care at Toro. "This device consumes zinc and creates zinc oxide and in the process gets electrical energy out of it."

When the zinc/air fuel cell is exhausted, zinc pellets are pumped into the cell along with a liquid electrolyte from a "vending-machine-sized" recycling/refueling unit. At the time of refueling, the zinc oxide byproduct produced by the reaction is pumped into the unit and is turned back into zinc pellet form.

According to Colborn, this refueling takes approximately five minutes, while the recycling inside the "vending machine" is continuous.

"Aside from the recycling advantage, there's up to seven times the energy per pound in zinc/air versus lead/acid," said Colborn. "We're not promising that at the beginning, but we are promising nearly double the range of the lead/acid system as development continues."

"What excited us [Toro] about this is that we can get something on the order of 4,000 watts for three hours for about 250lbs. of weight on the mower. That's very viable," said Lang. "Electrical power can be different from mechanical power because what we're talking about is an average power. We can generate 4,000

watts continuously for three hours.

"For the greensmower prototype what we'll probably end up doing is supplying peak power with small lead acid batteries that are essentially charged by the fuel cell. Those small lead acid batteries will be able to provide us peak power, maybe 20 horsepower, so we can climb as well as we climb with a 20 horsepower engine but you don't burn 20 horsepower all the time," said Lang.

While the idea of recyclable energy for turf care equipment is sure to spark the interest of superintendents, there are several barriers that have to be overcome — as in any new technology.

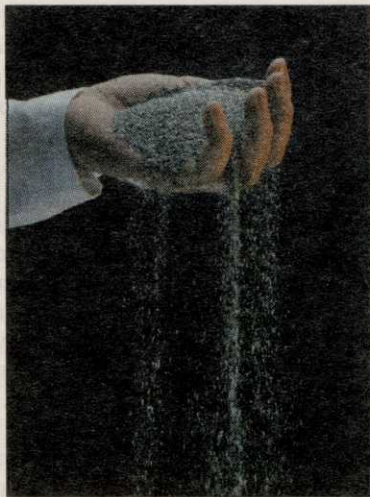
"The capital cost will be comparable to gas, but it's going to be more expensive than lead/acid," said Colborn. "But it's a totally new technology and at this point the principal downside is that it hasn't been proven yet."

"While Metallic Power has a good change at making this work, the big question is will it be commercially produced?" said Lang. "We've been talking about new battery technology for many years and nothing new has been commercialized."

But according to Colborn, it's going to be one step at a time.

"It's not going to happen tomorrow," said Colborn. "We're producing Alpha prototypes this year. Next year we're planning a field demonstration with 50 units. The following year we go into production."

"There are many advantages to an electrical product," said Lang. "You have zero emission, you can have a complete, electric computer-controlled machine. You can do things to make the machine more reliable, like limiting and controlling deceleration and acceleration rates."



A handful of zinc pellets used in the charging of the zinc/air fuel cell.

Utility vehicles

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because it keeps all wheels on the ground at the same time."

Club Car's new XRT 272 due out in June 1999, also features a suspension upgrade. "We not only have 11 inches of ground clearance, but also a fully independent front suspension and semi-independent rear suspension that enhances traction and gives the vehicle a better ride," said David Turner, brand manager for Club Car.

However, Club Car also designed the XRT 272 to be at home in both construction and turf applications. "The differential lock can be disengaged to make it safe for turf applications as well," said Turner.

Indeed, utility vehicles have to keep a low profile on the golf course. For that reason, John Deere is introducing the E-Gator utility vehicle to offer superintendents a quiet and efficient option. "Yet this is a true work vehicle," said Collis Jones, manager for golf and turf vehicles for John Deere. "It offers the same capacity as the Turf Gator and will run all day on a single charge."

Kawasaki will also be introducing a quieter version of their Mule 2520 later this year. "It will feature turf tires and sound deadening to tune it specifically to turf applications," said Mike Mount product specialist for utility vehicles at Kawasaki.

When it comes to vehicle durability, plastics are making a huge impact—or avoiding them according to Textron's Whurr. "On the Turf-Truckster, plastics help to cut down on costs, especially when used on the front end where collisions are likely to happen," said Whurr.

While many of the vehicles have plastic hoods, Toro's new Workman 1100 features a plethora of plastic parts. "We even put a plastic bed on the back, which is not only quieter, it is dent and rust proof,"

said Bornstien. In designing the 1100, plastics and computer aided design also allowed Toro to integrate storage features under the seat and in the dash board to give superintendents more places to stow their gear.

Other product innovations key in on making utility vehicles more comfortable to operate. Many manufacturers, like John Deere and Club Car will be featuring increased leg room and high-back bucket seats.

"It is all well and good to make it do everything from a work perspective," said Whurr. "But the vehicles also have to provide operator comforts."

Terresolve

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gasoline...You're mixing in three ounces in premix. So it goes from a \$1 to \$1.70 for that gallon."

But cost concerns, said Miller, should be overlooked once superintendents embrace the oil's most marketable property — it's kind to turfgrass.

"The largest volume selling product that we do is a bio-degradable hydraulic fluid for greens mowers, the EnviroLogic 100 series," said Miller. The 100 series has been on the market for three years.

'Anything you take that's hot will wilt the leaf...But when our product penetrates the grass it biodegrades, so the plant lives.'

—Mark Miller

"When the oil drops out of the hydraulic system onto the grass the heat does kill, or wilt the blade. The real damage to the plant comes when the petroleum saturates the root structure. With petroleum, you wilt the blade and you kill the plant structure. Anything you take that's hot will wilt the leaf, as every superintendent knows. But when our product penetrates the grass it biodegrades, so the plant lives."

Miller calls it "bounce back." Once a Terresolve product hits the grass "The grass is green in five days to two weeks. With petroleum you have to dig it up and cart it away."



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