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CITRUS INDUSTRY HYPED OVER REACTOR

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CLEARWATER BEACH -- A 20-minute presentation on a new mixing technology for the beverage industry elicited the same "Could this be too good to be true?" reaction one normally encounters with a TV infomercial.

It mixes.

It pasteurizes.

It emulsifies.

It even cleans itself.

And it really, really works.

The "ShockWave Power Reactor" captured a lot of attention at last week's International Citrus and Beverage Conference in Clearwater Beach, which attracted nearly 400 officials associated with Florida's citrus juice processing companies.

"I think all of the Florida's Natural people at the conference said that sounds real good," said Steve Kullberg, the senior operations manager at Florida's Natural Growers in Lake Wales, the nation's third-largest citrus juice seller. "It's definitely a novel approach."

Still, Kullberg and other processing officials told *The Ledger* they had a lot of questions before deciding whether the new device from Hydro Dynamics Inc., a Rome, Ga., high-tech firm, might fit in with current juice-making technology.

The ShockWave uses a spinning rotor laced with rows of small cavities, said Daniel Armstead, the director of technical and engineering support for Hydro Dynamics, during his Thursday presentation. As fluid runs through the reactor, it creates thousands of tiny bubbles that quickly collapse, thus generating energy and heat.

The heating action can be used for pasteurization, he said, but because the ShockWave generates heat internally, it avoids creating scales along the surface of the container. Any cook who has to scrub the bottom of a pot or pan is familiar with that problem.

But the chaotic action of bubbles forming and bursting also creates an environment for blending other liquids or gases into the original fluid, Armstead said.

Because the blending occurs at the microscopic level, the ShockWave creates a mixture from 25 percent to 250 percent more uniform, he added. The device is also superior for emulsion, or the mixing of mutually insoluble liquids, such as oils in water.

The ShockWave has applications for a wide variety of industries from foods and beverages to pharmaceuticals, petroleum and paper, Armstead said. The company has 40 reactors or prototypes in use across North America.

Hydro Dynamics has targeted food and beverage companies as the "low-hanging fruit" most likely to embrace the ShockWave, he said.

Armstead's presentation generated the most questions from the audience among the 23 talks during the 45th annual conference, which is hosted by the University of Florida and the Institute of Food Technologists, a trade association. Before this year, the three-day conference was called the Citrus Processing Short Course.

After the talk, a number of officials from major Florida processors, including Peace River Citrus Products Inc. in Vero Beach and Southern Gardens Citrus Processing Corp. in Clewiston, gathered around Armstead to discuss the ShockWave.

In other seminars, Russell Childrey of CSCC (Cal Safety Compliance Corp.) told participants social accountability audits are coming to U.S. food and beverage companies after establishing a foothold in the apparel industry.

CSCC, a subsidiary of Specialised Technology Resources (UK) Ltd., and other firms are hired by retailers, financial institutions and others to monitor suppliers and affiliated companies for compliance to ethical standards, Childrey said. CSCC does about 12,000 such audits annually.

Social accountability has become part of the fabric of doing business for many U.S. companies that use overseas suppliers, he said. The audits monitor practices such as use of child labor, work rules, payment procedures and other company operations to ensure companies are complying with legal and ethical standards.

The audits became widespread in the apparel industry after news stories detailed abusive work practices by suppliers for entertainer Kathy Lee Gifford's clothing line, Childrey said.

That kind of negative publicity can cost a company millions of dollars and even drive it out of business, he said. The reverberations can also affect other companies in the same industry.

"It's happening everywhere," Childrey said. "If there's going to be a Kathy Lee Gifford of grapefruit, it will affect the industry very rapidly."

At another seminar, participants heard from Peter Hunt, an executive with Brown Machinery Australia Ltd., about the growing fresh citrus and juice industry in that country. Brown also has an office in Winter Haven.

Australian citrus production has risen from 544.5 million metric tons in its 2003-04 season to an estimated 722.5 tons in the current season, Hunt said. It's expected to reach 850 million metric tons in a few years.

But Rakusa "Rocky" Sakurai, an executive with Suntory Ltd., a Japanese beverage company, said the popularity of 100 percent citrus juices and fresh fruit has been flat or declining among that country's consumers while that of other products, such as teas, coffee and bottled waters, is increasing.

Beverage makers are trying to compete by introducing beverage blends with 10 percent to 50 percent real juice, Sakurai said. Suntory recently introduced one such product made from citrus frozen in liquid nitrogen to minus 321 degrees and infused in a drink with 4 percent to 8 percent alcohol.

Samples Sakurai brought also proved to be popular among conference participants.

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