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NEWS FROM THE IOWA DEPARTMENT OF ECONOMIC DEVELOPMENT

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Vivan Jennings, Asoyia chief technical advisor, is shown with an Ultra Low Linolenic soybean plant.

Iowa's Asoyia produces a healthier, more functional soybean oil

As consumers demand healthier food options and food processors demand more functionality from ingredients, an Iowa company is delivering a new and improved soybean oil that delivers on both counts.

Asoyia's Ultra Low Linolenic Soybean Oil—made from soybeans developed by Iowans and grown by Iowa farmers—sets the standard for both health and utility. "As more food companies learn about our oil, we



hope our only problem will be meeting the growing demand," says Greg Keeley, CEO of the Iowa farmer-owned Asoyia.

Since Asoyia's healthier, more functional soybean oil entered the market in 2004, food processors, restaurants and consumers have been flocking to the product. "Our soybean oil is the first of its kind offering this combination of health benefits while providing food companies, restaurant chefs and their customers the great taste of foods that they have grown accustomed to," says Keeley.



Asoyia's Ultra Low Linolenic Soybean Oil is made from soybeans with only one percent of linolenic acid. The low level of linolenic acid stabilizes the oil and eliminates the need for hydrogenation, vastly improving the functionality of the oil.

"Our oil contains the lowest available linolenic acid content on the market—eliminating the need for the hydrogenation process which conventional soybean oils must go through to maintain freshness and

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Groupe Lacroix chooses Iowa for U.S. manufacturing

IML CONTAINERS, a plastic packaging manufacturing company, chose a Le Mars location in 2006 to offer better service to Wells' Dairy and other U.S. customers of its innovative containers. IML's new \$5 million operation was awarded a series of tax credits and abatements from the Iowa Department of Economic Development-administered High Quality Job Creation (HQJC) program.

The Le Mars facility is the first U.S. packaging plant of parent company Groupe Lacroix, a Bois d'Amont, France-based manufacturer that operates 18 packaging plants around the world. "Containers are shipped to both coasts as well as to customers in Chile and Romania," says Steeve Vallee, IML Containers of Iowa plant manager.

In the IML facility, state-of-the-art injection molding and robotics equipment—with each production line costing upwards of \$1 million and weighing up to 35 tons—runs 24 hours a day, seven days a week producing containers. Since beginning operations last September, IML has grown to 20 employees with several production lines producing in-mold labeling containers, primarily for the dairy industry. "Our containers are packaging solutions for a wide array of food products destined for the grocer's shelves and deli cases," says Vallee.

In-mold labeling on containers offers full photographic quality, top-to-bottom coverage and premium design. Easy-to-open, the containers can also include a customer's unique tamper-evident system. In the ultra-competitive food industry, where companies look for any advantage, packaging is on the front line of product differentiation.

"This injection molding technology allows for much brighter graphics on the package, so it pops out on the shelf," says Wells' Dairy spokesman Dave Smetter. "Since they're reusable containers, you always have your brand front-and-center if consumers choose to hold on to the container."

"We are very unique in the food industry, specializing in the manufacturing of flexible plastic packaging. We produce containers that are smaller, softer, reusable and 100 percent recyclable," says Vallee.

According to Vallee, everything to produce the containers—from the plastic to the greases that keep the machines lubricated—is food safe. "IML is dedicated to producing the highest quality container in the cleanest environment," says Vallee. "Once our customers receive our containers, they are ready to be filled with product without additional cleaning, printing or labeling."

"The thin plastic label is placed into the mold by robotics, and is infused right into the container during the injection process so it won't rub or crack off, even in a dishwasher," explains Vallee. "In our facility we can easily produce more than three million parts per week."

For more information on finding an Iowa business location, visit www.iowalifechanging.com or phone a project manager at the Iowa Department of Economic Development, 800.245.4692, for a confidential consultation. ■



JRS Pharma finds prescription for growth in Iowa

JRS Pharma, a wholly owned subsidiary of German-based J. Rettenmaier & Sohne, is constructing a second pharmaceutical ingredient production facility in the eastern Iowa community of Cedar Rapids. The \$15 million production facility is being constructed adjacent to its sister company, J. Rettenmaier USA.

The facility will produce microcrystalline cellulose, a binder used by pharmaceutical companies in pills and capsules.

"JRS Pharma is an industry leader with innovative products, patented technologies and technical expertise for pharmaceutical and nutritional industries worldwide. Our highly sophisticated process engineering ensures low cost manufacturing without compromising quality," says Michael Hempe, engineering manager for J. Rettenmaier & Sohne. "When our new facility is operational in early 2008, it will enhance what we believe is the largest worldwide capacity for powdered and microcrystalline cellulose."

It will be the second expansion of a J. Rettenmaier & Sohne business unit in Cedar Rapids in the past two years. It was late 2006 that J. Rettenmaier USA began operating a dietary oat fiber manufacturing facility. The plant, built at a cost of \$23 million, is converting oat hulls to oat fiber for use in a wide range of food products. "This production plant for dietary fibers was initiated and built as a response to the increasing demand for oat fibers in the food industry," says Hempe of the 150,000-square-foot plant.

With facilities in 130 countries, J. Rettenmaier had many options for its expansion but chose Iowa following an extensive evaluation of other sites. "Several factors, including the quality of workforce available in the area, local infrastructure and financial assistance offered by the city and state, really placed Cedar Rapids front-and-center in terms of site location for the facility," says Hempe. "We've really found an exceptional business environment here."

JRS Pharma received a series of tax benefits from the Iowa Department of Economic Development's Iowa Enterprise Zone program. J. Rettenmaier USA expansion was leveraged by \$450,000 in awards from the Iowa Department of Economic Development's Community Economic Betterment Account (CEBA) and the Value-Added Products and Processes Financial Assistance Program (VAAPFAP).

Iowa has an environment that is helping many bioprocessors to thrive. Eastern Iowa is home to a burgeoning list of food ingredient and value-added agricultural products manufacturers. A partial list includes ADM Corn Sweetners, Cargill, Quaker Oats, Red Star Yeast, Lesaffre Corporation, Penford Products, Diamond V Mills and Frontier Natural Products.

JRS Pharma offers its customers the most complete portfolio of high quality excipients and technologies, especially for solid dosage forms. When JRS Pharma and J. Rettenmaier USA needed a high-quality business environment for expansion projects, they found a prescription for growth in Iowa. ■

Soy ingredients producer expanding

As director of research and food technology at Soy Innovations International®, Dr. Wilmot Wijeratne seeks to deliver the finest soy ingredients to the food industry and increase human consumption of soy-based foods.

"We offer food manufacturers a product mix consisting of low-fat soy flours, textured soy proteins, soy/rice cereals and soy oil," explains Wijeratne. "Our mechanical manufacturing process is adapted from the InstaPro extruder of Triple F Inc., our parent company."

InstaPro technology is a thermal process that subjects soybeans to a high temperature, destroying undesirable enzymes, releasing soybean oil for easy separation and improving the digestibility of soy protein.

"Because we do not separate the soybean into components, the natural balance of the nutrients is maintained throughout the process," says Wijeratne. "Our products are truly natural."

Soy Innovations' ingredients are used in bakery, pasta, cereal, confectionery and beverage applications. "Customers also use our products as meat extenders or meat alternatives in vegetarian foods, as well as in energy bars and drinks," says Wijeratne.

To take advantage of the growing international demand for food products containing the protein-rich, heart-healthy soybean, Soy Innovations is in the midst of a \$5.2 million expansion in Indianola, Iowa. Once the project is complete, Soy Innovations will double manufacturing capacity to 100 tons of output per day.

The new production facility, which will be certified as both organic and kosher, will create 12 new jobs and provide a new local market for growers of identity-preserved, non-GMO soybeans. The project was leveraged by a \$100,000 award from the Iowa Department of Economic Development-administered Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP).

If you would like a confidential discussion of your company expansion, phone a project manager at the Iowa Department of Economic Development, 800.245.4692. Or visit our Web site at www.iowalifechanging.com. ■



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APPA Fine Foods is cooking in Iowa

APPA Fine Foods distributes fully cooked chicken strips to the food service industry, deli sandwich chains and national grocery chains such as Sam's Clubs, Trader Joe's, Whole Foods, Wal-Mart, Costco and others from its new Denison, Iowa location

APPA Fine Foods was founded in 1987 as a fresh and frozen smoked salmon distributor in Corona, California. And in its 20-year history, the company has grown from distributing a single smoked salmon product to distributing more than 200 products throughout North America. Finding an opportunity in value-added fully cooked poultry products, APPA moved its cooked poultry products operation from California to the western Iowa community of Denison. According to Jeff Knowles, APPA Fine Foods vice president, “Our move to Iowa has been a tremendous success. The state of Iowa and city of Denison have been very receptive to the expansion and we couldn’t be more pleased with our new operation.”

In fact, after just one year of operating in Denison, APPA is embarking on an expansion plan that will add several new products to the Denison facility. The \$1.3-million expansion will add new grilling equipment and an additional 4,400 square feet of food processing space. When complete, APPA’s facility will be more than 30,000 square feet and will create an additional 28 jobs. The expansion project was leveraged by a \$125,000 award from the Economic Development Set-Aside (EDSA) program and a series of tax benefits from the Iowa Enterprise Zone program. Both programs are



administered by the Iowa Department of Economic Development.

APPA emphasizes private-label processing and prepares grilled chicken using proprietary recipes. “We distribute our fully cooked chicken strips to the food-service industry, deli sandwich chains and to national grocery chains such as Sam’s Clubs, Trader Joe’s, Whole Foods, Wal-Mart, Costco and others,” says Knowles. “We are finding that ready-made cooked items are what consumers are demanding and we want to be the company that fills that demand.”

While APPA looked at several Midwestern sites for its new processing facility, Denison stood out for several reasons. “We wanted a central location in close proximity to Interstate highways, a skilled and available labor force, and competitive water, electrical and workers’ compensation rates,” explains Knowles. “The food-processing industry is a competitive business with tight margins. Iowa is a location that allows us to be most competitive.”

And it’s not surprising that a food processor would thrive in Denison. The community has been called the “meat capital of the U.S.” and is home to three other food processors—Tyson Fresh Foods, Farmland Foods and Denison Foods—that employ more than 2,000 Iowans. “We found the critical mass in the food-processing industry here in Denison, and that is fueling our success,” notes Knowles.

With a 20-year record of success—first in smoked salmon and now in fully cooked poultry products—APPA Fine Foods is using a Denison, Iowa, location to meet its growth objectives. “Iowa has all the attributes a food processor needs for success,” says Knowles. ■

Asoyia — Continued from page 1

long-lasting stability for commercial cooking applications,” explains Keeley. “Hydrogenation of oils creates unhealthy trans fats which have been linked directly to adverse effects in cholesterol and heart disease.”

With the 2006 Food and Drug Administration requirement that food manufacturers list the amount of trans fats on food labels, food processors have been looking for oils that will eliminate trans fats in packaged and restaurant foods. Asoyia soybean oil has no trans fats, doesn’t increase saturated fat and does not adversely affect taste or increase cost or labor for restaurant owners.

“We continue to work with scientists within the food industry to determine if our oil can go where no unhydrogenated soybean oil has gone before—into food products that require more stability than previous unhydrogenated soybean oils could deliver,” says Keeley. “And they are finding that the culinary performance and shelf life of Asoyia’s oil is everything they need in a functional ingredient.”

According to Keeley, food processors have several options when deciding on trans fat-free oils. “Alternative oil choices—sunflower, canola, peanut or palm—have issues of their own,” he says. “These other oils can impart flavors or have impaired fry life or other characteristics that don’t make them as desirable as the soybean oil.”

In fact, major food companies such as Kellogg Co., Yum Brand’s KFC, Arby’s, Taco Bell, Wendy’s, Ruby Tuesday, California Pizza Kitchen and dozens of other restaurants have made the switch to trans fat-free soybean oil.

Asoyia oil is produced from soybeans that are the result of nearly 40 years of research by agronomists and food scientists at Iowa State University. Soybean breeder and Distinguished Professor in Agriculture, Walter Fehr; and Emeritus University Professor of Food Science and Human Nutrition, Earl Hammond, studied linolenic acid traits in soybeans and developed the Asoyia soybean’s unique ultra low composition (see Guest Opinion, page 8).

Cargill is processing the soybeans into oil for shipment to the marketplace at its Cedar Rapids and Des Moines, Iowa, locations. And Asoyia—who is producing more than 20 million pounds of oil annually—is working hard to see that production of its trans fat-free oil meets the demand for healthier oil. “Today we have 150 growers planting varieties of our Ultra Low Lin soybeans on more than 30,000 acres throughout the Midwest,” explains Keeley. “And we are aggressively recruiting more growers in a geographically dispersed area to supply this growing market.” ■

Top 100 food companies with operations in Iowa

All but one of the top 10 food companies in the United States have operations in Iowa. Their success rests on a profit building environment that includes proximity to raw materials, a critical mass of food companies, competitive energy costs, no sales tax on energy used in processing, no sales or property taxes on machinery and equipment, and low workers’ compensation costs.

Rank	Company	Food Sales (\$ billions)
1	Tyson Foods Inc.	23.9
2	Kraft Foods Inc.	23.3
3	Pepsico	21.2
4	Nestle (U.S. & Canada)	19.9
6	Dean Foods	10.5
7	General Mills	9.8
8	Smithfield Foods	9.6
9	ConAgra Foods Inc.	8.2
10	Swift & Co.	7.9
13	Sara Lee Corp.	7.1
15	Coca-Cola Co.	6.7
19	Cargill	5.5E
20	Hormel Foods Corp.	5.4
24	H.J. Heinz	4.1
27	Land O’Lakes	3.9
32	Interstate Bakeries Corp.	3.1
36	Dairy Farmers of America	2.4
38	Ag Processing Inc.	2.3
44	Schwan Food Co.	2.0E
50	Ralcorp Holdings	1.7
56	Foremost Farms USA	1.4
60	Pinnacle Foods	1.3
63	Associated Milk Producers	1.2
74	Wells’ Dairy	.9E
77	Birds Eye Foods	.8

E = estimate

Source: Food Processing, 2006

The proof is in the pudding . . .

ConAgra Foods' expansion plans for its Waterloo pudding plant is "a validation of everything our community has to offer business," according to Linda Laylin, director of business services for the Greater Cedar Valley Alliance.

One of North America's leading packaged food companies, ConAgra Foods has a consumer-brands portfolio that includes Banquet, Chef Boyardee, Healthy Choice, Hunt's, Marie Callender's and Orville Redenbacher's, among others.

In 2006, ConAgra announced it would reorganize and streamline its manufacturing operations as part of a long-term plan to control costs. In the reorganization, some plants would expand while others would be closed.

"Whenever a company is looking at several locations for an expansion project, you get nervous," says Laylin. "But we were confident about our community's total package—an available and skilled workforce, job training opportunities at Hawkeye Community College, our central location and transportation infrastructure, and a competitive incentive package."

That confidence was well founded after ConAgra announced that its nine-year-old Waterloo pudding plant—where Hunt's branded Snack Pack single-serving puddings are made—would be doubling in size.

The Waterloo facility was selected for the expansion over Indianapolis, Indiana, and Menomonie, Wisconsin.

According to Scott Budak, plant manager of the Waterloo facility, the 155,000-square-foot, \$46 million expansion should be complete this summer. Expansion will add about 50 jobs to the workforce of 75 people employed there.

Leveraging the project are financial and tax benefit awards from the Iowa Department of Economic Development. The city of Waterloo is providing 20 years of graduated property tax abatements and land for future expansions.

The highly automated facility, in which the puddings are sterilized and cooled in an all-tubular aseptic processing system, was built on a green field in 15 months back in 1998. The facility's highly automated design and aggressive construction schedule led it to being named *Food Engineering's* 1999 Plant of the Year.

Along with the plant's automation, "Another competitive advantage is the skill sets of our people," says Budak. "We have the ability to drive down costs by constantly modifying and updating our equipment."

And as each case of Hunt's Snack Pack pudding rolls off the Waterloo production line, one can safely say, "The proof is in the pudding." ■

Among the lowest Workers' Compensation

A new comparison of premium rates for workers' compensation in the 50 states plus the District of Columbia lists Iowa among the lowest rates. Only six other states have a lower workers' compensation rate than the state of Iowa. Iowa's premium rates are also lower than all the states that border Iowa.

Iowa has improved its ranking to 45th lowest premium rates from the 43rd lowest two years ago. Iowa's premium rate for workers' compensation coverage is \$1.75 per \$100 of payroll, according to the "2006 Oregon Workers' Compensation Premium Rate Ranking Summary."

To find out more about Iowa's competitive business environment, phone a project manager at the Iowa Department of Economic Development, 800.245.4692. Or visit our Web site at www.iowalifechanging.com.

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**Walter Fehr,
The Charles F. Curtiss
Distinguished Professor
in Agriculture,
Iowa State University**

g u e s t o p i n i o n

Iowa State University-developed soybean oil a 'healthy fit' for food companies

In 1968, I began a collaboration with Dr. Earl Hammond, a food scientist at the Iowa State University department of food science and human nutrition. At that time, ISU was asked by Unilever, one of the world's largest food companies, to develop a healthier soybean oil. Unilever was concerned about the cost of chemical hydrogenation that was used to increase the shelf-life of soybean oil and the possible harmful effects of trans fatty acids produced by the chemical process. Trans fats have been linked directly to adverse effects in cholesterol and heart disease.

Through this collaborative research, we were able to develop by conventional plant breeding methods some novel genes that alter fatty acid composition. These included genes for lower saturated fat content and reduced linolenic acid that would improve the health and functionality of soybean oil. As soon as the genes were discovered, we began to develop high-yielding soybean varieties that could be grown commercially by farmers.

The first commercial quantities of a soybean oil with about three percent linolenic acid oil were produced in Iowa in 1994 through a collaboration with Pioneer Hi-Bred International, Inc.

I continued to breed new soybean varieties with a focus on an even lower linolenic acid content of one percent. I was interested in understanding whether the oil would be stable enough to eliminate the need for chemical hydrogenation. During the process of increasing one percent linolenic acid seed varieties to obtain oil for testing, the Food and Drug Administration

announced it would require labeling for trans fat beginning in 2006. Instead of using the seed of the new varieties to obtain oil for testing, it was used for further seed production so that commercial quantities of the one percent linolenic acid oil could be available as quickly as possible.

Food manufacturers are using the oil in a variety of cooking and baking applications, including frying, sautéing, spraying, commercial blending, and sauces and dressings. Our challenge now is to produce enough of the oil to meet the demand.

Bringing the ISU-developed low-linolenic acid soybeans and oil to market is Asoyia, an Iowa farmer-owned company. Today they are the leading producer of the oil. This year, they are planting more than 30,000 acres of soybeans to produce more than 20 million pounds of oil. The farmers who produce the beans receive a premium for every bushel and share in the revenues with the company's owners. One hundred percent of the company's profits return to Iowa farmers.

We are not done yet in our quest to improve soybean oil for human consumption. In 2007, the first soybean varieties will be grown commercially that have elevated oleic acid in combination with one percent linolenic acid. Tests of the oil by food companies and a USDA food scientist demonstrate that increased oleic acid gives the oil an even longer shelf life than the one percent linolenic oil.

If you want to learn more about our modified oil varieties, please visit www.notrans.iastate.edu or e-mail me at wfehr@iastate.edu. ■