

THE INNOVATOR

News from Rutgers Food Innovation Center...Resources and Solutions for Business Growth

Fall 2005

Join the Food Entrepreneurs' Network

Learn about HHP Processing

Eye on The Pan-Hispanic Market



Rutgers Food Innovation Center Mission

To stimulate and support sustainable economic growth and prosperity of the food and agricultural industries in the New Jersey region by providing businesses with innovative research, customized practical solutions, resources for business incubation and a trusted source for information and guidance.



Focus on FEN: The Innovative and FREE Food Entrepreneurs' Network

You've heard of, and in all likelihood watched television's Food Network, which has built a loyal viewership and catapulted chefs like Emeril and Rachel Rae to stardom. But, you may not be familiar with the *Food Entrepreneurs' Network* (FEN), an organization with the potential to truly influence the food industry.

FEN is a professional networking organization of individuals from start-up firms, small and medium sized enterprises, and related food and agriculture businesses that discuss business development, consumer trends, food safety, marketing management, product development, strategic planning and state and federal regulations — a full range of engaging topics and issues of concern unique to our industry.

The Rutgers Food Innovation Center launched and supports FEN. Members receive advice from each other and the Center in a forum free from commercial solicitation. In addition, the Center keeps FEN members well informed about opportunities to attend seminars, join industry tours and learn about trade conferences and events related to the development and growth of their businesses.

There are endless interactive opportunities for FEN members on the Center's website: www.foodinnovation.rutgers.edu/FEN.html. Members can download, presentations, articles and other information on product, marketing and business development issues. They can also hold virtual conversations with other members on the online FEN bulletin board.

JOIN FEN – IT'S FREE

FEN membership is FREE and open to all food and agriculture industry participants in the New Jersey region. To become a member, visit www.foodinnovation.rutgers.edu/FEN.html and fill out the FEN registration form. **Join Today!**

INNOVATIONS News about Food Innovation Center clients and the innovative products they bring to market. Special Holiday Edition



American Jubilee Desserts – Making the Holiday Sweeter

American Jubilee Desserts in Rahway, NJ, lures customers with gourmet treats baked from "scratch." When owner Adrienne Phillips began the company in

1999, she wanted to create more than just a "good cake," using fresh and all-natural ingredients. With guidance from the Food Innovation Center, American Jubilee is growing, and winning more and more customers over with its line of custom gourmet cakes, pies, tea breads, savory items and more than 15 varieties of cookies. Visit www.americanjubileedesserts.com to place orders and browse for items, including holiday specials. For more information, call 732-381-3634.

Spring Creek Farm – Jersey Jams and Jellies

Spring Creek Farm, a 17-acre stretch of land in Upper Deerfield, currently produces 28 varieties of gourmet jams and jellies for sale in local gift shops and farmer's markets. A 2004 Food Innovation Center value-added grant assisted Spring Creek founder and sole proprietor, Diana Johnson, with expanding the business and reducing her operating costs.

While many customers go for the blueberry jam, made from nearby Hammonton blueberries, you might want to try the bluebarb jam for a unique holiday gift. Tart rhubarb mixed with the intense flavor of blueberry mellows the flavor, making the jam smoother. Whether you opt for this or another variety, you're helping to keep the Garden State green since all of the berries are locally grown. For more information about Spring Creek Farm, call (856) 455-6462.



TECH TALK: High Hydrostatic Pressure Processing

By Julie Elmer, Associate Director, Food Technology, Rutgers Food Innovation Center

High Hydrostatic Pressure Processing (HHP) is finding a wide range of applications in the food-processing world. Used extensively in other industries for nearly a century, its application to food is creating **a new category of products that have all the attributes of freshness with reduced food safety risks.**

When food is subjected to pressures upwards of 87,000 pounds per square inch, spoilage organisms and pathogens become inactivated, extending both the shelf life and quality of the product. Not all food types benefit from this process, however. HHP works most effectively on foods with a high liquid content such as ready-to-eat meats, fresh juice, prepared fruits and vegetables, smoked fish, crabmeat and oysters.

No Changes in Quality

Covalent bonds remain intact during HHP, and as a result, no free radicals or chemical byproducts form – a common occurrence in irradiation or high temperature cooking. The FDA and the USDA do not require special approval for the process. **Foods are preserved without undergoing major changes in flavor, color, texture, aroma or nutritional value.**

Energy Efficient Process

The amount of energy needed to compress food through HHP is relatively low, and the process is more energy-efficient than many of the food production methods requiring heat. The high pressure cycle takes less than six minutes, compared to traditional high-temperature processing that takes an hour or longer.

Research studies confirm that consumers feel most comfortable with technology that does not add preservatives to the food they are eating, does not involve the use of irradiation and is environmentally friendly – good news for HHP.

What It Costs

The capital investment for HHP is substantial because the machinery is complex and requires precision in its construction, use and maintenance. Small to large production units range in price from \$600,000 to \$1.7 million. Costs include not only the pressure vessel but the conveyors and equipment to move products into and out of the chamber. Over the past few years, manufacturers have made significant progress in simplifying the installation and maintenance of HHP equipment, and **increasing demand should bring prices down over time.**

How It Works

High pressure processing can be achieved in a batch process or through a semi-continuous process for pumpable liquids. High hydrostatic pressure is applied to food products through a water bath. Then, the hydrostatic pressure is transmitted to food products equally from all sides. **This equal distribution of pressure prevents foods from becoming crushed during treatment.** The product packaging for high-pressure processed food must withstand a change in volume of up to 15 percent. Although the food will return to its original size, the packaging needs to maintain its seal integrity and barrier properties.

Who Uses It

Nationally recognized companies including Hormel Foods Corporation (prosciutto ham and other RTE meats), Perdue Farms (RTE poultry), Avomex (guacamole, salsa, avocado pieces, juice, ready meals), Calavo (avocado products), Leahy Orchards (applesauce), Winsoms of Walla Walla (chopped onions), Motivati Seafoods, Nisbet Oyster Company, Joey Oysters (oysters), and others have installed HHP equipment in their manufacturing plants to produce safe, high-quality foods. Both Europe and Japan also currently use HHP. In addition, the U.S. Army is working to develop a high-pressure-assisted thermal sterilization process for low-acid foods.

Rutgers University Food Science Department operates a research-sized, 10 liter HHP unit in the Center for Advanced Food Technology pilot plant under the direction of Dr. Mukund Karwe. Contact Dr. Karwe at (732) 932-9611, Ext. 224, to explore the potential of this technology for your food product.

An Eye on the Pan-Hispanic Market

By Diane Holtaway, Associate Director, Business Development, Rutgers Food Innovation Center

The U.S. Hispanic population has grown tremendously in the past decade. According to a 2004 report, the U.S. Census Bureau estimates that over 40 million Hispanics now reside in America, up 13 percent since the 2000 census. The Census Bureau projects that **the Hispanic population will swell to nearly 59 million by 2025**. Mexicans represent the largest percentage of Hispanics nationally, while Puerto Ricans prevail in New Jersey (see chart).

The Hispanic market is both diverse and complex. From consumers with roots in Mexico to Nicaragua, and Chile to Puerto Rico, they represent numerous ethnicities and origins. With an estimated purchasing power of \$450-500 billion nationally, Hispanics present a powerful opportunity for marketers, particularly in the food industry.

Hispanics are responsible for nearly 11 percent, or \$36 billion, of all expenditures for food consumed at home. They represent a large market for meats, poultry, fish, eggs, fresh fruit and vegetables, fats and oils and non-alcoholic beverages. Their purchases will affect the way food products are both developed and marketed in the near future.

A Peppery Paradigm

There are numerous products that appeal to cross segments of Hispanic populations. However, a marketer cannot assume that one product will have the same appeal for one culture as it does for another. **Each ethnicity and even populations within a country have unique food products, ingredients and taste preferences.**

Take the simple example of a fresh pepper....

Although peppers serve as a common ingredient in many Hispanic cuisines, the type of peppers selected for cooking can vary significantly. The hot and fruity flavor of the aji amarillo is adored by Peruvians, while Venezuelans prefer the sweet and mild spicy notes of the aji dulce pepper. Cubans fancy the small "heatless", sweet cachucha, while Mexicans, depending on their regional origin, can favor a broad range of varieties from the smoky notes of poblanos and chipotles to fiery habaneros and subtle green chiles.

Marketers must "pick the right pepper" for sales to succeed with each segment of the Hispanic market.

The Hispanic Connection

Picking the right pepper illustrates that when it comes to Hispanic food marketing, **it's very important to know your target market and focus on the right products for that market.** In addition, it's important to note that differences are significant, yet similarities do exist across these diverse cultures:

- Hispanic families are traditionally larger than average U.S. families, so they require greater quantities of food. They spend nearly 25 percent more than other consumer groups on food eaten at home.
- Because processed foods are generally less available in their countries of origin, Hispanics living in the U.S. are likely to include a relatively high proportion of fresh meats, poultry, fruits and vegetables in their diets.
- "Cooking from scratch" is a way of life for most Hispanic women. Newly transplanted Hispanics tend to shy away from processed food products. However, as cooks acculturate into America, they become more attracted to convenience food.

Hispanic Populations by Ethnicity United States and New Jersey

U.S. Census Bureau, 2004 American Community Survey Estimates

	United States	New Jersey
Mexican	25.9 million	116,500
Puerto Rican	3.9 million	441,100
Cuban	1.4 million	81,000
Other Hispanic	9.3 million	636,200
Total	40.5 million	1.3 million

Sources: "Market Trends: Hispanic Americans and Food." MarketResearch.com, Inc.: 1-13. 25 Oct. 2005
Jensen-Campbell, Cam. "Today's Hispanic Consumer." USDM.net (2005): 1-5. 28 Oct. 2005.

To make Hispanic food marketing even more complex, a shocking 75 percent of Hispanic foods sold in the U.S. are purchased by non-Hispanics.

The American's quest for ethnic foods, with interesting flavors, textures and presentations, is driving this purchasing behavior.

My Pyramid's Colorful Spring Debut

In April, the federal government released the revised **Food Pyramid**, which incorporates recommendations from the January 2005 *Dietary Guidelines for Americans*.

With the new guidelines, **the Food Pyramid guide received a new look and a new name: MyPyramid**. With consumers' rising demand for healthy food options, the Pyramid is a valuable tool for food businesses in creating new options for restaurant menus, grocery shelves, vending machines and the many other channels where individuals make their daily food choices.

Each color on the pyramid represents a different food group: orange for grains, green for vegetables, red for fruits, yellow for fats and oils, blue for dairy and calcium-rich foods and purple for proteins (meats, beans and fish). In addition, MyPyramid is web based and has interactive capability for the first time in history, targeting computer savvy youth. Users have the ability to customize recommendations with up to 12 sets of specific guidelines using information based on age, gender and activity level.

The pyramid graphic illustrates a **new focus on physical activity** by portraying a person ascending a staircase, an appropriate new emphasis given the latest data from the National Center for Health Statistics (NCHS).

A Tool to Battle Obesity

The NCHS show that 30 percent of U.S. adults 20 years of age and older—over 60 million people—are obese. Obese is defined as a body mass index (BMI) weight/height² (BMI;kg/m²) of 30 or greater. Unfortunately, this increase is



not limited to adults. The percentage of young people who are overweight has more than tripled since 1980. Among children and teens aged 6–19 years, 16 percent (over 9 million young people) are considered overweight.

MyPyramid is designed to help consumers of all ages make appropriate food choices and increase physical activity to bolster healthy lifestyles. Consumer research verified that the new messages presented in the guidelines are effective. Substantive changes to the guidelines include:

- The use of cups and ounces rather than serving numbers
- An increase in the recommended intake from the dairy group to 3 cups a day
- A recommendation that whole grains comprise at least half of the grains consumed to increase fiber consumption
- A focus on reducing trans fat as well as saturated fat (The new trans fat labeling requirement on foods will assist people to do this.)
- An emphasis to increase healthy fats, such as mono and polyunsaturated fatty acids found in fish, nuts and vegetable oils, with a 20-35 percent range of total fat recommended daily
- A recommendation to increase physical activity to reduce the risk of chronic disease as well as prevent weight gain or sustain weight loss using a 2000 calorie a day example
- A specific recommendation for people who need to lose weight, children and adolescents, women who may become pregnant or are breastfeeding, people with chronic disease and middle-aged and older adults

To download and print your specific dietary recommendations, log on to www.mypyramid.gov.

The Department of Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA) release the Dietary Guidelines jointly every five years. The Guidelines serve as the basis for all federal food and nutrition education programs. Most states have updated their school food programs to meet those guidelines.

Brands Build Business

By Christopher Shyers, Business Development Specialist
Rutgers Food Innovation Center

Brands have value and add value:

- Accountants measure the value of brands on a balance sheet.
- Business Managers measure the value of brands by price premium and market share.
- Customers measure the value of brands by perceptions, preferences and purchases.

A brand helps an organization communicate corporate-driven values of quality, lifestyle and integrity through an implied promise to meet the expectations of customers. The attributes of a quality product, including its ingredients, components and manufacturing process, are implied in a brand. Aspects of community, culture, and conduct of both the corporation and customers are also inferred in a brand.

Authenticity and product integrity – it is what it says it is – are inherent in brands. By meeting (or by being perceived to meet) the quality, comfort, and integrity expectations of customers, brands build relationships, customer loyalty and customer retention (repeat business.)

Brand Equity

To build a profitable food and consumer goods business requires a focus on building and protecting brand equity. Brand Equity - the value of a brand - equals the sum of the value of customer relationships, plus the value of customer loyalty, plus the value of customer retention.

Brand equity can be eroded by failing to meet customers' expectations and will have a negative impact on today's and future sales of a product.

Building positive brand equity should be a focus of every aspect of sales and marketing, product development, packaging, and promotion for food and consumer goods manufacturers. Protecting the value of a brand and protecting the ability to meet (or the perception to meet) expectations of a product is an important part of brand management. To build brand equity, a company should identify customers' expectations (wants and needs) of the brand and to integrate and leverage the use of the brand across product lines and categories.

Finally, a successful company must protect brand equity. Companies should obtain trademark protection and actively manage the use of the brand, including monitoring the actions of competitors and third parties in the market.

GRANT NEWS!

By Margaret Maxwell-Mood
Manager of Finance and Administration
Rutgers Food Innovation Center

USDA Distance Learning Grant: Rutgers Food Innovation Center was awarded a grant of \$497,906 by the USDA Distance Learning and Telemedicine program for the project - *Regional Distance Learning Center for Food and Agribusiness Development: Creation of a seven-site network of food and agribusiness distance learning centers in rural New Jersey*. The funds will establish a connection among the Center, six southern New Jersey Rutgers Cooperative Research and Extension (RCRE) offices and Rutgers' main campus. This network will allow access to information and higher education opportunities otherwise unavailable in rural Southern New Jersey.

USDA Rural Cooperative Development Grant: The Center received \$300,000 for its proposal submitted to the Rural Cooperative Development program. The funding, designed to establish and support cooperatives in rural New Jersey, will benefit participants through collaborations in product distribution and marketing. According to Andrew Law, state director for USDA Rural Development, the program will help reverse the decline of New Jersey's rural sector.

USDA Value-Added Producer Grant: Since the inception of the Value Added Producer Grant program in 2001, New Jersey applicants have been awarded **\$730,700** in grant funds. In 2005, three individual farm businesses succeeded in their grant applications, including **Circle "M" Farms, Laurelwoods Organics** and **Villa Milagro Vineyards**. To date, the Center has assisted 14 applicants in receiving funding from the program.

Rutgers University Food Innovation Center will hold a series of workshops to assist farmers and agricultural producers in applying for grants from the USDA, which provides funding for the development or expansion of value-added agricultural businesses. The sessions will run in northern, central and southern New Jersey and are conducted in partnership with the New Jersey Department of Agriculture and USDA Rural Development.

Look for details on the Food Innovation Center's website:
www.foodinnovation.rutgers.edu.

'Tis the Season for Cranberries

- Native to North America, it is believed that the cranberry was first harvested in New Jersey in 1840 from an Ocean County, N.J. bog.
- The cranberry derives its name from the flower that appears in June each year, which is shaped like the head of a crane.
- The Leni-Lenape Indian tribe used cranberries for medicinal purposes, and the Pilgrims' Thanksgiving menu most likely included the berry.
- New Jersey is the third largest producing state of cranberries. Burlington County leads production in the state.
- The cranberry was originally harvested by hand.
- Today, most harvesters flood cranberry fields, creating "bogs," and use equipment to knock the berries from their vines, causing them to float.
- Floating cranberries are corralled to one section of the bog and pushed on to a conveyer belt and into trucks.
- Cool fall nights bring out the cranberry's rich, red coloring.
- For more than 350 years, America has celebrated with the cranberry, used in making juice, breads, cakes, relish, sauces, etc.



Birches Cranberry Co., Tabernacle, NJ

Fresh Cranberry-Citrus Sauce

A perfect accompaniment to Thanksgiving dinner and a wonderful complement to poultry and pork

1-1/2 pounds *Jersey Fresh* cranberries

1-1/4 cups sugar

1 cup orange juice

Grated zest of 1 orange

3/4 cup water

1. In a medium saucepan, combine cranberries, sugar and orange juice. Simmer uncovered for 15 minutes.
2. Add the orange zest and water. Simmer uncovered for another 15 minutes, stirring occasionally.
3. Strain the cranberry mixture through a fine-mesh sieve.
4. Let cool and refrigerate. Serve at room temperature or chilled.

For Whole Berry Sauce, skip step 3.

Makes about 3 cups.



Consumer Information

Scientific research is revealing how healthful cranberries can be. Packed with nutrients like antioxidants and other natural compounds, cranberries are a great choice for the health conscious consumer. Cranberries are available in a wide variety of forms including fresh fruit, juice, sauce, and dried. Juices and sauce are available year-round at your grocery retailer. Fresh fruit is generally available from September to December. Include more cranberries in your diet today and start eating healthier today.

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Upcoming Events

USDA Value Added Producer Grant Workshops

A presentation on this grant opportunity for agricultural producers and producer groups will take place throughout New Jersey in November and December.

Food Business Basics Workshop

A must-attend seminar for food entrepreneurs in the planning and early start-up phase of their business

Check out our website as soon as possible regarding workshops near you! Or, call the Food Innovation Center for more information.

www.foodinnovation.rutgers.edu

Phone (856)-459-1125

The Innovator is a periodic newsletter published by Rutgers Food Innovation Center, an off-campus outreach center of the New Jersey Agricultural Experiment Station.

Graphic design and printing provided by Rutgers University Mail and Document Services.



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