



# IDEAS

## for Food Processors

Summer 2006

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Cooperative Extension Service, New Mexico State University

### The Life of the New Mexico Dairy Industry

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In 1937 the month of June was deemed "National Milk Month" to promote consumption of milk and other dairy products. This tradition continues with new promotions such as "drink milk" and "curves." The 2005 USDA Dietary Guidelines increased the

recommendation of dairy foods from two to three servings recommended in the previous guidelines – to help Americans meet their requirements for calcium and other nutrients. Dairy foods supply three of the five nutrients of concern for which children have low intakes: calcium, potassium, magnesium. Overall, dairy foods together contain nine nutrients essential for good health: calcium, protein, potassium, vitamins D, A and B12, phosphorus, riboflavin and niacin.

The report also recommends that these nutrient-rich beverage options be made readily available, especially with children's meals. The report points to the success of introducing healthier beverage menu options at select quick service restaurants (QSR), and acknowledges that the key to success is offering nutrient-rich milk in appealing packaging, such as low-fat white and chocolate milk in contemporary, single-serve, 8-oz. plastic bottles. With these new guidelines milk

processors are in a good position to offer new products that have a ready market. The New Mexico dairy industry ranks seventh nationally with over 170 dairies throughout the state. The average dairy herd size is the largest in the nation.

The top five New Mexico counties for milk production (Market Administrators Report, April 2006) are: Chaves (176.5 million lbs.), Roosevelt (123.2 million lbs.), Curry (119.6 million lbs.), Doña Ana (98.7 million lbs.) and Lea (46 million lbs.).

New Mexico's dairy industry continues to grow with cash receipts reaching over \$743 million in 2002. Milk and other dairy products are the largest income generators for New Mexico farmers and ranchers. New Mexico dairymen have a dramatic impact on local and regional economies from the hiring of local labor to feed purchases. In 2002 it is estimated over that \$437 million was paid out in labor and feed by New Mexico dairymen. According to the New Mexico Department of Labor, New Mexico dairies employ an annual average of 3,852 people with an estimated payroll of \$81 million. There are nine fluid milk plants in New Mexico, four cheese plants and one condensed powder milk plant.

Sources: American Dairy Association: <http://www.drink-milk.com/news/moremilk.htm>

USDA AMS Dairy programs: <http://www.dallasma.com/>  
2002 New Mexico Dairy facts: <http://nmdaweb.nmsu.edu/DIVISIONS/AGSTATS/2002/2002%20Dairy%20Facts.pdf>

## GAPs Workshops for Fruit & Orchard Producers, Farmers' Market Vegetable Growers & Certified Organic Producers

Good Agricultural Practices (GAPs) workshops for fruit and orchard producers, farmers' market vegetable growers and certified organic producers are scheduled from 8 a.m. to 3:30 p.m., Thursday, July 20, 2006, in the Santa Fe County Cooperative Extension Exhibit Hall, 3229 Rodeo Hall in Santa Fe.

Participants will have the framework for a GAPs food safety plan that can be easily adapted to their own farming operation. GAPs is a common sense approach that fresh vegetable and fruit growers can utilize in their farming operations to meet consumer concerns and awareness about food safety.



On May 31, 2006, USDA AMS issued a notice to producers of fruit and vegetables that supply products to federal programs informing the growers that they must have GAPs certification by July 1, 2007.

There is a \$25.00 registration fee, and participants are encouraged to register by July 14, 2006.

For more information, contact Roy Pennock at [rpennock@nmsu.edu](mailto:rpennock@nmsu.edu) or call (505) 646-3588.

Source: Roy Pennock, GAPs Research Specialist

## A Message from the Editor...

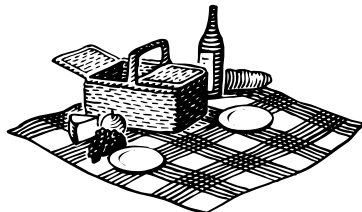
Finally "IDEAS for Food Processors" newsletter will undergo a change to a new format. The newsletter will only be available as a PDF document and will be sent out via e-mail and on-line at [www.foodtech.nmsu](http://www.foodtech.nmsu). The mailing list for the food technology program has grown from 350 in 2001 to 700 in 2006! Wow! Who would have thought that the food industry in New Mexico was so large!

The cost of printing and postage is overwhelming. So if you'd like to

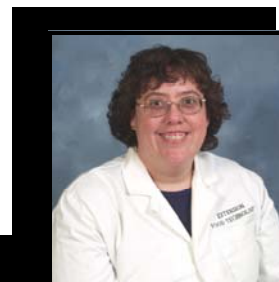
stay up to date with IDEAS please send me or Gloria an e-mail message stating that you'd like to receive the e-IDEAS.

Thanks to all of you for your continued support and interest in the NMSU Extension Food Technology program.

Enjoy!



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## IDEAS for Food Processors

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Editor: Nancy C. Flores, Ph.D.

*Nancy Flores*

Extension Food Technology Specialist  
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Gloria Hernandez, Adm. Secretary

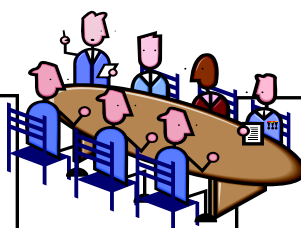
## Calendar of Upcoming Events

### Food Product Association (FPA) Workshops—2006

- July 20:** Member Only Webinar-Predictive Microbiology as a Validation-Supporting Tool. FPA Headquarters, 1350 I Street, NW, Washington, DC. For more information, contact Tamika Scott at (202) 639-5908. Email: [tscott@fpa-food.org](mailto:tscott@fpa-food.org).
- Sept. 11-13:** Train-the-Trainer HACCP Course. FPA Headquarters, Washington, DC. Registration deadline is August 31, 2006. This course will feature the 4th edition of FPA's HACCP manual titled HACCP. A systematic Approach to Food Safety. For more information, contact Jenny Scott at (979) 862-3643. Email: [jscott@fpa-food.org](mailto:jscott@fpa-food.org)
- Sept. 12-15:** FPA's Thermal Process Development Workshop. Omni at CNN Center, Atlanta, GA. Space limited, register today. For more information, contact Jenelle Kirton at (202) 639-5928. Email: [jkirton@fpa-food.org](mailto:jkirton@fpa-food.org).
- Sept. 18:** FPA Members Only Workshop-Food Nanomaterials: Regulatory and Policy Insights. Washington, DC. For more information, contact Jenelle Kirton at (202) 639-5928. Email: [jkirton@fpa-food.org](mailto:jkirton@fpa-food.org).
- Sept. 26-28:** GMA MSM Conference. The Breakers, West Palm Beach, FL. For more information, call (202) 337-9400. Email: [info@gmabrand.com](mailto:info@gmabrand.com).

### Institute of Food Technologists (IFT) Short Courses—2006

- July 14-21:** Kansas State University, Manhattan, KS. 26th International Workshop/Symposium on Rapid Methods and Automation in Microbiology. For more information, contact Daniel Y.C. Fung at [dfung@ksu.edu](mailto:dfung@ksu.edu) or Debbie Hagenmaier, [debbieh@ksu.edu](mailto:debbieh@ksu.edu).
- July 18-20:** University of Georgia Meat and Poultry Marination Short Course. Athens, GA. For more information, contact Eve Mayes at (706) 542-0272 or [ebmayes@uga.edu](mailto:ebmayes@uga.edu). Visit [www.EFSONline.uga.edu/calendar](http://www.EFSONline.uga.edu/calendar).
- July 24-28:** Culinology® Workshop: Culinary Arts Fundamentals for Food Technologists. St. Helens, CA. For more information, contact Tim Kline at (404) 252-3663 or [tkline@kellencompany.com](mailto:tkline@kellencompany.com). Visit also [www.culinology.org/education](http://www.culinology.org/education).
- August 13-16:** International Association for Food Protection 2006 93rd Annual Meeting. Calgary, Canada. Contact or visit [www.foodprotection.org](http://www.foodprotection.org).
- August 14-18:** Fundamentals of Packaging Technology. Minneapolis, MN. For more information, contact Nicole Conner at (630) 696-4010 or [nconner@iopp.org](mailto:nconner@iopp.org). Visit [www.iopp.org/fpt](http://www.iopp.org/fpt) for more information.



*More information:*  
Food Products Association  
1350 I (Eye) Street NW, Suite 300  
Washington, DC 20005  
Telephone: (202) 639-5900  
Web site: <http://www.fpa-food.org>

*More information:*  
IFT Knowledge &  
Learning Experiences  
Department  
[knowledge@ift.org](mailto:knowledge@ift.org)  
Telephone: (312) 782-8424  
Fax: (312) 782-8348  
Web site: <http://www.ift.org/cms/>

## The Many Forms and Flavors of New Dairy Products

For 2006, yogurt is coming into its own. This is not simple rehash over the proliferation of low-carb offerings by all the major manufacturers. If this small sampling of yogurt products as a whole is any indication of the dairy industry, then most companies will be adding essential vitamins and minerals and reducing calories and carbs. Here are some of the brand spanking new products that companies are betting their R&D dollars on:



food point per serving on its calorie counting system.

- The aseptic market is coming alive as Steuben Foods Inc.'s Whitney Foods Inc. launched a line of *shelf stable* yogurt smoothies called "Yo on the Go." They do not need to be refrigerated until opened and are sold exclusively at Costco stores.

- Pepsi is taking advantage of aseptic packaging to create their "Milk Chillers" line of flavored milk drinks. They also boast 50% less

sugar than other flavored milks.

- The Dannon Company is offering "the perfect dessert" in Dannon la Crème Rich and Creamy with Chocolate Pieces. This is intended to complete with ice cream as a 15 oz container containing rich yogurt and pieces of chocolate but boasting 48 percent less fat than ice cream.
- General Mills has become the first in the U.S. to enhance refrigerated yogurt with plant sterols, which has shown to help reduce heart disease.
- Wells Dairy Inc. has created a set of dips that use yogurt and fresh chopped vegetables with savory herbs called the "Incredibles" line.
- Sargento Foods Inc. presented its "Bistro Blends" this year. They are shredded cheddar and asiago with different blends of spicy ingredients aimed at the gourmet cooking market.
- Weight Watchers is in with its branded line of yogurts and smoothies provided by Wells Dairy Inc. Each item boasts that it only uses one

- H.E.B. is crashing the low-carb party a little late but their "MooTopia" line of fortified, low-carb, and low-sugar milk looks promising.
- Lactose-conscious consumers rejoice! Farmland Dairies is releasing its "Special Request Lactose Free Skim Plus" milk that the company claims has the same taste as skim milk but minus the lactose.

A great deal of attention has been placed on catering to a perceived Hispanic consumer base. This is evident in Blue Bell's "Buñuelos" ice cream, Tropicale Foods' "Helados Mexico" ice cream bars, and Dean Foods' "Tampico" desserts. Beyond this exciting round of dairy products early in the year, expect to see many products later in 2006 to offer added Omega 3 fatty acids.

Source: Dairy Picking  
Willam A. Roberts  
Prepared Foods March 2006

### Dairy Market Trends: Shredded Cheese Still Growing, Chunks Slow

Shredded cheese sales have been growing steadily over the last few years, while natural cheese chunk sales are slowly declining. The number one reason for the jump in shredded cheese sales is consumer convenience. Now consumers have a choice as to buy pre-shredded cheese or to buy chunk cheese and shred at home. In addition, marketers have added value in the way of packaging improvements, which cut down on consumer costs.

Source: [www.dairyfoods.com](http://www.dairyfoods.com)

## HELP LINES

### **NMSU EXTENSION**

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**Foods and Nutrition Specialist**  
**Department Head**  
 New Mexico State University  
 Las Cruces, NM  
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### **COUNTY/CITY AGENCIES**

Albuquerque Environmental  
 Health Department  
 (505) 768-2642

### **STATE AGENCIES**

**New Mexico Agriculture**  
**Department**  
 Las Cruces, NM  
 (505) 646-3007

**New Mexico Health**  
**Department**  
 Scientific Lab Division  
 Pauline Gutierrez  
 Albuquerque, NM  
 (505) 841-250

**New Mexico Environment**  
**Department Food Specialists**  
 Albuquerque, NM  
 (505) 841-9452

**District I**  
 (505) 841-9450  
 Albuquerque (counties served:  
 San Juan, McKinley, Sandoval,  
 Cibola, Torrance and Bernalillo)

**District II**  
**Anita Roy** (505) 425-6764  
 Las Vegas (counties served:  
 Santa Fe, Los Alamos, Taos,  
 Rio Arriba, Union, San Miguel,  
 Mora, Harding, Colfax and part  
 of Guadalupe)

**District III**  
 (505) 524-6300  
 Las Cruces, (counties served:  
 Catron, Grant, Sierra, Hidalgo,  
 Luna, Doña Ana and Otero)

**District IV**  
 (505) 624-6046  
 Roswell (counties served: Curry,  
 DeBaca, Roosevelt, Chaves, Lea,  
 Quay, Eddy and Lincoln)

**New Mexico Live-**  
**stock Board**  
 Meat Inspection Division  
 Arthur P. Marquez  
 Program Manager  
 Albuquerque, NM  
 (505) 250-6115

**New Mexico Organic Commodity**  
**Commission**  
 Joan Quinn  
 Albuquerque, NM  
 (505) 841-9067

**Agriculture and Environmental**  
**Services, Dairy Bureau**  
 Alfred E. Reeb  
 Albuquerque, NM  
 (505) 841-9425

### **FEDERAL AGENCIES**

**United States Department**  
**of Agriculture (USDA), Dist. 15**  
 Boulder, CO  
 (303) 497-5411  
 www.usda.gov

**Animal and Plant Health**  
**Inspection Service, USDA**  
 Plant Protection & Quarantine  
 Las Cruces, NM  
 (505) 527-6985

**Meat and Poultry Hotline**  
 (800) 535-4555

**Food and Drug**  
**Administration (FDA)**  
**Devine Koontz**  
 Food and Drug Administration  
 (FDA), Public Affairs Specialist  
 Denver, CO  
 (303) 236-3020

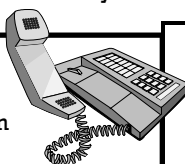
**David Arvelo**  
 Small Business Office  
 Southwest Region, FDA  
 Dallas, TX  
 (214) 253-4952

**Mike Zimmerman**  
 Consumer Safety Officer, FDA  
 Albuquerque, NM  
 (505) 248-7377

**Seafood Hotline**  
 (800) FDA-4010

### **ASSOCIATIONS**

**New Mexico Specialty Foods**  
**Association (NMSFA)**  
 Anna Shawver  
 Albuquerque, NM  
 (505) 332-2000



## Better Process Control Schools

**Better Process Control School**  
 August 14-17, 2006  
 University of Hawaii at Manoa  
 Location: St. John 11 Auditorium, Honolulu, HI  
 Contact: Dr. Aurora A. Saulo  
 Email: aurora@hawaii.edu  
 Tel: (808) 956-6564 Fax: (809) 956-3894

**Better Process Control School**  
 October 2-5, 2006  
 Texas A&M University  
 Location: Rudder Tower, Texas A&M  
 University Campus, College Station, TX  
 Registration: Joanie Groce  
 Email: j-groce@tamu.edu  
 Tel: (979) 845-7694 Fax: (979) 845-8906

**Better Process Control School**  
 October 3-6, 2006  
 University of Nebraska-Lincoln  
 Location: Holiday Inn Lincoln-Downtown,  
 141 N. 9th Street, Lincoln, NE  
 Registration: Teresa Garcia  
 Email: tgarcia2@unl.edu  
 Tel: (402) 472-2831 Fax: (402) 472-1693

**Better Process Control School**  
 October 3-6, 2006  
 University of Tennessee  
 Location: Holiday Inn Select-Cedar Bluff,  
 Knoxville, TN  
 Registration: Nancy Austin  
 Email: naustin@utk.edu  
 Tel: (865) 974-7717 Fax: (865) 974-7332

**Better Process Control School**  
 October 24-27, 2006  
 Michigan State University  
 Location: Dairy Foods Complex, MSU  
 Campus, East Lansing, MI  
 Registration: Linda Young  
 Email: youngli@msu.edu  
 Tel: (517) 355-8474 Fax: (517) 353-8963

**For continuing information, visit the new  
 Web site for the Food Products Association:  
[www.fpi-food.org/content/BPCS.asp](http://www.fpi-food.org/content/BPCS.asp)**

## Safety of Raw Milk (More than Just a Stomach Ache)

Consumption of raw mammalian milk (such as sheep, goat and cow milk) by humans has been occurring since the discovery that humans could drink the milk of animals. However, this action has been happening with, no doubt, many side effects. It is now known that consumption of raw milk and raw milk products is the cause of many pathogenic (disease-causing) microorganism outbreaks. These outbreaks have occurred all over the United States and in many countries, not just in isolated areas. Many incidences of outbreaks occur that are never reported to the proper authorities such as the Center for Disease Control (CDC). The reason is that it is virtually impossible to capture all incidence of food-borne illness. The following are some significant pathogenic microorganism outbreaks associated with consumption of raw milk and raw milk products.

- The first outbreak history to mention is that of the organism *Salmonella typhimurium*. This multi-state outbreak occurred between 2002 and 2003, when 62 people were infected due to consumption of raw milk.
- The next outbreak of importance was that of *Salmonella dublin* in California. There were 113 cases, and of those 44 were proved to have an association with raw milk; 35 had used milk from a single dairy. Of the 113 people, 89 were hospitalized and 22 died.

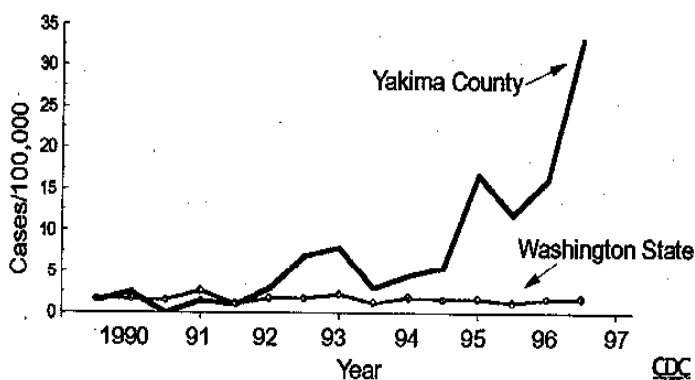
- Next, an outbreak of multi-drug resistant *Salmonella typhimurium* DT104. This outbreak occurred in 1997 in northern California and in Washington state. The product consumed was Mexican-style fresh cheese made from raw milk. Altogether there were 164 confirmed cases; 91 percent of the people of those cases were of Hispanic origin and the median age was 4 years old.

- A two-year outbreak of *E. coli* O157:H7 occurred in Oregon between 1992 and 1994 due to consumption of raw milk that was sold in Oregon grocery stores. Similarly, an outbreak of the same species occurred in Wisconsin between 1992 and 1999. There were 1,333 cases reported with many being children age 3-5 years. One of the many complications that can arise from being infected with *E. coli* O157:H7 is hemolytic uremic syndrome (HUS). HUS is greatly prevalent among those who consume raw milk and raw milk products and is a common cause of renal failure. It has been reported in places all over the globe including Switzerland, Austria and Argentina. Argentina has the highest incidence in the world!

Lastly, outbreaks of *Listeria monocytogenes* are very commonly associated with raw milk products. Approximately 2,500 people each year become extremely ill due to infections caused by this organism. Nearly one-fifth of these infected people will die from this infection. *L. monocytogenes* is particularly dangerous to pregnant women; it can cause stillbirths

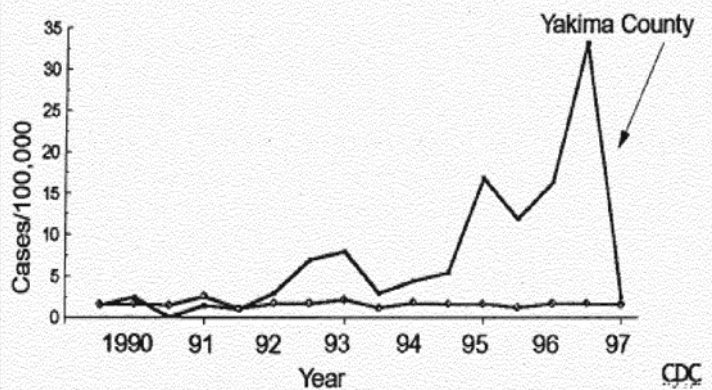
### Pre-Intervention

Incidence of *S. Typhimurium* infections in Yakima County and Washington State, by six-month interval, 1990-1997



### Post-Intervention

Incidence of *S. Typhimurium* infections in Yakima County and Washington State, by six-month interval, 1990-1997



Continued on next page

## Safety of Raw Milk...continued

and premature death in newborns. In 1985, Los Angeles County experienced a large outbreak. Many of the cases were pregnant women or their children. Of these 93 cases, 48 people died.

Some hope concerning raw milk products is that there are various interventions being implemented to warn the public about the dangers of consuming raw milk products and to teach manufacturers (both commercial and non-commercial) safer ways to make their products without using raw milk. One success story to mention is that of the Abuela

Project. This was a project implemented in Yakima County, Washington state in order to reduce the high prevalence of *Salmonella typhimurium* DT104 in queso fresco (a fresh cheese product of Hispanic origin). A series of workshops were held that taught cheese makers to make "queso fresco" using pasteurized rather than raw milk. Below is a graph of the incidences of *S. Typhimurium* infections pre and post workshop. As is plain to see by the major decrease in incidence after the workshops in 1997, the workshop was a huge accomplishment!

Source: Cindy Leonard, USFDA/CFSAN  
 Web site: [www.cfsan.fda.gov/nean/milksafe/milksa1.htm](http://www.cfsan.fda.gov/nean/milksafe/milksa1.htm)

## It's All About the Cheese

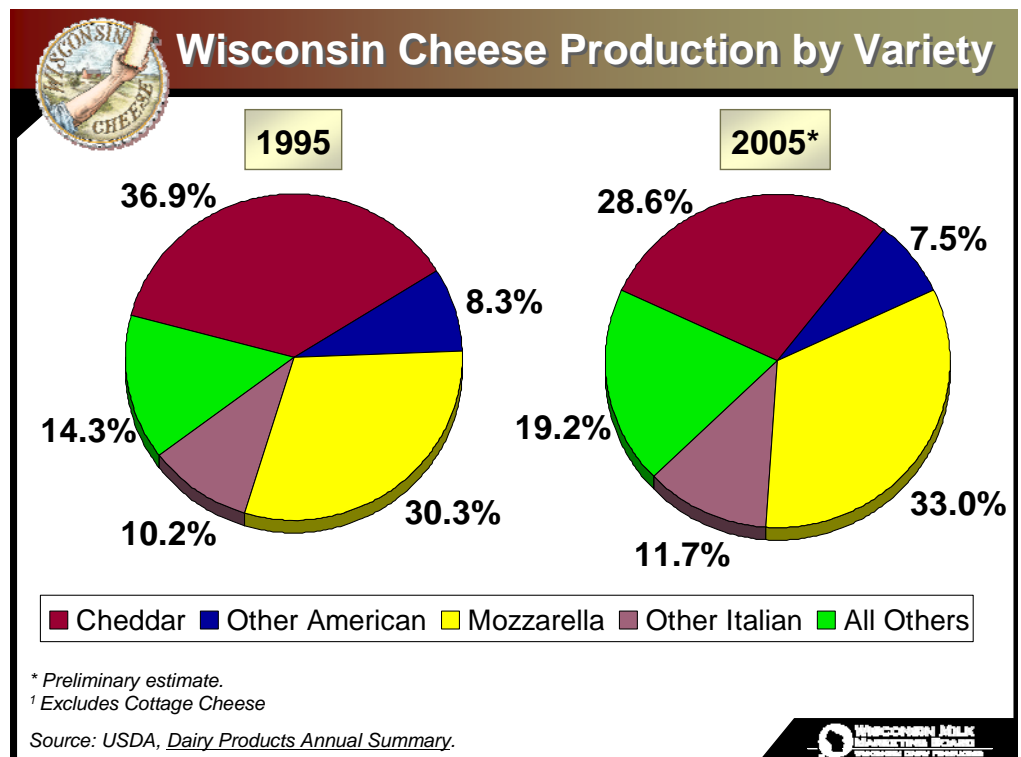
Americans love cheese and in 2004 reached an all-time record high of 31.24 pounds per capita. The projected consumption by 2015 is 34 pounds per capita.

Source: Wisconsin Milk Marketing Board  
 Web site: <http://www.wisdairy.com/AllAboutCheese/CheeseFactsAndFigures.aspx>

Traditional cheddar is an American favorite; however, consumption of mozzarella and provolone cheeses has steadily increased in the last few years.

There are over 300 types of cheese available in the US. Cheese falling in the 'other' category grew by 4.6 percent in 2004. Artisan and specialty cheese including Swiss and Hispanic-style led growth in the 'other' category.

Wisconsin and California continue to lead production in the US with Idaho, New York and Minnesota accounting for 72 percent of cheese production.



## e-IDEAS

“IDEAS for Food Processors” newsletter will soon undergo a format change.

The newsletter will only be available as a PDF document and will be sent via e-mail and on-line at **www.foodtech.nmsu**.

If you would like to stay up to date with IDEAS, please send an e-mail to: Nancy ([naflores@nmsu.edu](mailto:naflores@nmsu.edu)) or Gloria ([glorhern@nmsu.edu](mailto:glorhern@nmsu.edu)), stating that you would like to receive the e-IDEAS newsletter.

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