

CALIFORNIA Dairy Dispatch

RESEARCH, EDUCATION AND SERVICE TO SUPPORT THE DAIRY INDUSTRY

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Johne's Disease Control Program Offers Free Education, Risk Assessment and Herd Management

By Michael Payne, D.V.M., Ph.D.

Johne's Disease (Paratuberculosis) is known as a silent killer of cows and profits on the dairy farm. What many California dairy producers don't know, however, is that the state has a voluntary program that provides funding for education, management and even testing for Johne's Disease—and it's free.

Researchers estimate that up to 22 percent of all dairy herds in the United States have a 10 percent Johne's Disease infection rate—at a cost anywhere from \$75 to \$180 per cow. About 10 years ago, the federal government recognized the need to control spread of Johne's Disease and implemented a strategic plan to reduce its prevalence in U.S. herds. The California Voluntary Johne's Disease Control Program (CVJDCP) grew out of that effort and offers funding for producer participation.

"This program provides valuable information to the dairy producer. Through education and development

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California Dairy Workers Participate in Pilot Agroterrorism Training

By Sharon Avery, WIFSS project director

When considering those who need to be prepared for an agroterrorist attack, it is instructive to consider these questions: Who are the people in closest contact with animals, equipment, and the food product itself? Who in the food and agricultural industry are in positions to recognize suspicious activities or to notice early symptoms of livestock or plant diseases? What group might be the first to be harmed by an agroterrorist attack? The answer to all three questions is immigrant farm workers.

Immigrant farm workers make up to 80 percent of the agricultural workforce and they are on the frontline of food production from farm

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of a herd management plan, a producer can greatly reduce the risk of Johne's Disease as well as other costly diseases," said Dr. Richard E. Breitmeyer, California State Veterinarian, Department of Food and Agriculture. "I really encourage all dairy producers in California to take advantage of the federal funding that is now available to assist with this important program."

Controlling Johne's Disease on the dairy has numerous benefits. Beyond reducing the potential for infection, taking steps for Johne's Disease mit-

igation and management also helps reduce common GI disease transmission on the farm for pathogens such as Salmonella, E. coli, cryptosporidia, and rota and corona viruses.

The California Voluntary Johne's Disease Program is made up of three components: Education (Phase I), Management (Phase II), and Herd Testing and Classification (Phase III). Producers can complete any of the three phases, but must complete Phases I and II to qualify for free diagnostic testing. All phases are voluntary.

According to Dr. David Ewey of the U.S. Department of Agriculture (USDA) who, along with Dr. Randy Anderson, serves as a statewide Johne's Disease coordinator, the program is easy to follow with guidance from a certified veterinarian leading producers through each phase.

Education is the first step (Phase I). Producers contact a certified Johne's Disease veterinarian who will take them through a free training presentation, which consists of an orientation to the basic biology and transmission of Johne's Disease, clinical signs, control and prevention practices. The dairyman then receives an education certificate and can move to the next step. Following this training, the producer will work with a certified vet to perform a herd risk assessment and will develop a herd management plan (Phase II).

The risk assessment entails a comprehensive evaluation of the animals, facilities and management practices on the dairy with a specific focus on identifying areas of vulnerability to Johne's Disease introduction or transmission. Working with the vet, the producer will put together a plan for the management practices that will be implemented on the dairy to mitigate identified risks. The CVJDPC provides a detailed workbook that guides veterinarians and producers in

completing this plan, which is then submitted to Drs. Ewey or Anderson.

"These management plans are focused on realistic practices, agreed to by the producer, that they can implement and will address the specific goals identified in the risk assessment," said Ewey, who is a Veterinary Medical Officer for the USDA. "Working with certified veterinarians is key because they can identify the steps necessary to each unique dairy and its situation."

After the plan has been reviewed, the producer receives a certificate for having completed the second phase and qualifies for subsidized (free) herd testing.

Subsidized testing typically involves sampling either a subset of the herd (10 percent of the herd, or 60 head over 2 years of age, whichever is higher) or the whole herd with a screening test (ELISA blood test). Free fecal testing can be performed to confirm disease status in any cow that tests suspicious or positive on the screening ELISA. Testing results are confidential.

Taking a step further, a producer can enter Phase III, which involves classification of the herd as positive or negative for the existence of Johne's Disease. For Phase III, a producer must either test a subset of the herd (as described above), the whole herd, or have environmental sampling done, which involves sampling fecal areas of the farm. Once this is complete, the herd is classified as either positive or negative. Advancement to Phase III is voluntary and a producer's decision. A CVJDPC-certified veterinarian can provide details on requirements associated with this phase of the program. Classification status comes into play on a national level with people looking to purchase replacement cows

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State-of-the-Art: California is Center of Hand-Crafted Cheeses

The *Sacramento Bee's* food editor, Mike Dunne, highlighted California's specialty cheeses in a complimentary article that appeared in the "Taste" section of the October 12 edition of the newspaper.

Dunne wrote, "Americans long have looked first to Europe for their cheese, but increasingly California dairy farmers are making artisan cheeses. Over the past 10 years, the number of California cheese varieties has jumped from 70 to 250, reports Nancy Fletcher of the California Milk Advisory Board.

"What's more," Dunne continued, "California cheese producers are accumulating a rising number of medals in national and international competitions."

In a non-scientific survey, Dunne and his colleagues sampled cheeses featuring nine varieties, listing their characteristics, serving suggestions and price, as well as the farms pro-

ducing them. Dunne wrote, "...we settled on the following assortment to add variety, drama and surprise to a party cheese tray."

- Bravo Farms' Tulare Cannonball
- Point Reyes Farmstead Cheese Company's Original Blue
- Fiscalini Cheese Company's 18-Month Bandage-Wrapped Cheddar
- Redwood Hill Farm & Creamery's Camellia
- Cypress Grove Chèvre's Humboldt Fog
- Cowgirl Creamery's Red Hawk
- Three Sisters Farmstead Cheese's Serena
- Laure Chene's Chèvre
- Vella Cheese Company's Special Select Dry Monterey Jack

Dunne profiled three artisan cheesemakers, Three Sisters Farmstead Cheese, Fiscalini Cheese Co., and Laura Chenel (a goat cheese dairy).

He wrote, "Rob Hilarides milks 6,000 Jersey cows on his family's farm in Lindsay in Tulare County. He sells most of the milk to Hilmar Cheese Co. Five years ago, his oldest daughter, Marisa Simoes, decided to try her hand at cheesemaking after attending, with her father, a cheesemaking class at Cal Poly San Luis Obispo. Her cheese was a hit from the outset, leading to another family business, Three Sisters Farmstead Cheese. (Her sisters, Lindsay and Hannah, still are in school and not yet directly involved in cheesemaking.)"

Dunne also featured cheesemaker Mariano Gonzalez of Fiscalini Cheese in Modesto. Gonzalez, who grew up in Paraguay, first began making cheese with Shelburne farms in Vermont after taking a cheesemaking class at the University of Vermont. After 10 years in Vermont, he returned to Paraguay and started his own cheesemaking business, but "political and economic problems, and uncertainty about rearing his two daughters in Paraguay prompted him to return to the United States. He joined John Fiscalini's dairy in Modesto in 2001 as cheesemaker, and the company continues to collect honors, especially for its cheddar cheeses.

"The most successful cheesemakers, especially those who make farmstead cheeses, are people who really love to make cheese," said Mariano Gonzalez. "They love the transformation of milk to cheese."

For further information on the artisan/farmstead cheesemaking course offered at the Cal Poly Dairy Products Technology Center in San Luis Obispo, please call Laurie Jacobson at (805) 756-6097 or email her at ljacobso@calpoly.edu



Award-winning California cheeses. Photo courtesy of the California Milk Advisory Board (CMAB)

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(Johne's from page 2)

where a low-risk certification can be used as a marketing tool.

For dairyman and cheesemaker John Fiscalini—who serves as co-chair of the Johne's Advisory Group and has completed all three phases of the program—it is a win-only proposition. In taking steps for Johne's Disease mitigation and management, he also is helping to reduce other diseases that are transmitted via the oral-fecal route that affect herd health, and in the long run, the bottom line.

"It makes good overall sense to participate in this program because it provides for positive on-farm practices that benefit far beyond Johne's control and prevention," said Fiscalini. "With a mitigation plan in place, I have reduced the risk of exposure and infection by calves while also reducing the risk of other diseases. Being

proactive about implementing good management practices increases the health of my entire herd."

The producer-driven CVJDPC is voluntary and dairymen can choose their level of involvement. Funding, however, will unlikely last forever. Interested producers can contact certified veterinarians directly—a list is available on the CDFA Web site at www.cdfa.ca.gov/ahfss/ah/johnes_info.htm or on the California Dairy Quality Assurance Program (CDQAP) Web site at www.cdqa.org/johnesdiseasecontrol, or they can call their area CDFA District Office (see phone numbers at right) for details. Currently 180 California veterinarians are certified to provide these services.

"The program takes producers step-by-step through the process and provides funding to offset expenses," said Dr. Anderson. "We encourage all California dairy producers to take

advantage of this opportunity while it is available."

Michael Payne, DVM, PhD is director of the California Dairy Quality Assurance Program (CDQAP) and assistant director for the Western Region of the Food Animal Residue Avoidance Databank (FARAD) at the Department of Environmental Toxicology at UC Davis.

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CDFA Animal Health Branch Offices:

Sacramento (HQ) (916) 654-1447
Redding (530) 225-2140
Modesto (209) 491-9350
Tulare (559) 685-3500
Ontario (909) 947-4462

Milk Genomics Consortium Rolls out Beta Version of Web Portal

The International Milk Genomics Consortium (IMGC), a corporate/academic partnership recently launched a Beta version of its Web portal. The consortium was created to provide a collaborative research environment for understanding the biological value of mammalian milk and using that knowledge to improve human health.

Tied to the International Milk Genomics Research Project currently underway at the University of California, Davis, the portal will serve as the main repository for relevant research data as well as a conduit between public and proprietary databases allowing authorized users to create or view the annotation of publicly known genetic information with proprietary generated expression data. Access to the portal is restricted to consortium partners and academic affiliate members. A limited access version is

available for review and commentary at <http://lactoknow.ucdavis.edu>.



"This portal is a key tool to unlocking the mystery of milk through genomics. Whether understanding the links between genes, the proteins they create and their affiliated products or realizing the health benefits derived through evolutionary selection of mammalian lactation, it will assist researchers in associating common themes and displaying knowledge in new ways," said Bruce German, a professor of food science and technology at UC Davis who leads the International Milk Genomics Research Project.

In addition to providing a framework for mapping relevant public genomic resources, the structure of the portal will allow for results from consortium-sponsored microarrays to be uploaded for quick annotation and availability. It also creates an online venue for related education for training future dairy scientists, dairy nutritionists and bioengineers and is designed to allow Consortium partners to develop and manage advanced knowledge of milk for their proprietary applications.

The IMGC Web Portal will be discussed in-depth during the Second International Symposium on Milk Genomics & Human Health, which will be held November 10-11, 2005 in Napa, Calif. For information about the Symposium, visit www.cdrf.org or contact Jennifer Giambroni at info@cdrf.org.

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Survey Shows Women View Dairy as an Important Functional Food

Women's overall knowledge about functional foods increased since 2002

California women are more aware that dairy and other functional foods are important in improving their family's health and reducing the risk of disease, according to a Dairy Council of California (DCC) survey.

The survey, conducted in 2005, revealed women's overall knowledge of functional foods and the associated health benefits increased since DCC conducted a similar survey in 2002.



"This is an extremely positive trend for the dairy industry because it shows women increasingly see dairy foods as healthy and useful in addressing specific nutritional needs in their family," said Peggy Biltz, Dairy Council of California CEO. This helps the industry target its marketing and nutrition education efforts, especially since women are the primary food purchasers."

Other key findings include:

- Women value dairy foods mostly for improving bone health to prevent osteoporosis, but many also mention dairy's role in enhancing immunity, reducing risk of breast cancer, weight reduction and management, reducing high

blood pressure, and decreasing risk of colon cancer.

- Forty-five percent of the women surveyed said they buy foods to improve their family's health or prevent disease—up 5 percent from 2002. The percentage was even larger among higher income and older age groups.
- More than two-thirds of the women surveyed believe dairy foods can help decrease risk of disease and increase health and wellness for their family.
- Ninety-six percent of women said they consume dairy products, averaging 2.41 servings per day, up from 2.28 servings three years ago. The average respondent consumes 3.58 different dairy products.
- Sixty-four percent could not name a drawback to consuming dairy products. Those who could

cited fat, lactose intolerance and calories as concerns.

- Three-fourths of the women said they do not believe soy foods are a good alternative to dairy.

"The research shows that Dairy Council of California and industry efforts to help consumers understand and accept functional foods and dairy's place in the functional foods movement is paying off," said Biltz.

The survey, conducted by the research firm Market Enhancement Group, asked 200 women between the ages of 20 and 65 of their knowledge and opinions on functional foods. For more information on the survey, contact Dairy Council of California at (916) 263-3560.

This article appeared first in the July 2005 issue of *Agribusiness Dairyman*.

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The above participants and speakers attended the Advanced HACCP Short Course for cheesemakers August 2-4. The event, sponsored by the California Dairy Research Foundation and the International Dairy Foods Association, was held at the Cal Poly Dairy Products Technology Center in San Luis Obispo.

UC Davis dairy scientist receives high honors

The American Dairy Science Association selected José Eduardo P. Santos, D.V.M., Ph.D. as the 2005 recipient of the Cargill Animal Nutrition Young Scientist Award. Dr. Santos is an associate professor at UC Davis School of Veterinary Medicine in the Department of Population Health & Reproduction. He is based at the school's Veterinary Medicine Teaching and Research Center in Tulare.



Dr. Santos

The award, presented in July during the association's annual meeting, recognizes outstanding research published by young dairy production scientists during the first 10 years of their professional careers.

Dr. Santos is noted for his applied and basic research on nutritional management to enhance health, reproduction and lactation performance of dairy cattle.

He teaches clinical nutrition focusing on metabolic disorders and nutritional management of dairy and beef cattle. He conducts clinical training of veterinary students and residents specializing in dairy medicine. Dr. Santos also provides veterinary services for local dairy producers who are clients of the Veterinary Medicine Teaching and Research Center.

Besides his teaching, research and service activities on behalf of the school, Dr. Santos, who speaks both Portuguese and Spanish, collaborates with colleagues in Brazil, Spain and Chile on dairy health issues related to veterinary nutrition.

Study links diet and genetics

A study of how genes vary between individuals could help determine how to adjust the nutritional content of foods to suit individual diets, according to UK scientists.

Now scientists at the Institute of Food Research (IFR) (www.ifr.ac.uk) have completed what they say is one of the first studies to define how unique we are on the genetic level. The initial study on 18 individuals found that the way our genes function varies significantly, particularly in some key areas including the immune system.

Of the 14,000 genes analyzed, 3,302 were identified as varying significantly in their expression among human volunteers. Some of the variation was what might have been expected due to age, gender and body mass index. However the team found considerable variation in the expression of genes covering a wide range of biological functions, such as those regulating antibody production.

While the main findings are important for determining how individuals may respond to different medicines, it could also be used for determining nutritional needs. The fact that day-to-day variation within individuals was so low suggests that detecting even small changes through adjustments to diet or nutrition should be feasible, the team stated.

Research leader Ruan Elliott said his team studied "gene expression," the process by which genes are activated to make proteins that in turn carry out a range of functions in the body.

Differences in gene expression can translate into visible characteristics, such as eye and hair color, and

can also affect how we respond to different medicines and foods.

The team studied gene expression in white blood cells, which are involved in disease response. Such cells can alert scientists to minor changes that occur before disease sets in. The study defined the normal level of variability of gene expression in healthy people so minor changes can be detected.

"As with the human genome project, our research involved relatively few people, but it tells an important story that will help scientists all over the world accurately make sense of genetic information", Elliott stated. "We have made the data freely available."

This article, dated Aug. 2, 2005, was excerpted from foodnavigator.com/Europe.

UK dairy unveils ringtone to promote milk

By Chris Mercer

Schools in the UK could soon be buzzing with Mootone, a ringtone devised by the dairy industry to get kids back into milk and encourage them to think about the white stuff's benefits.

Britain's Milk Development Council (MDC) has released the Mootone, featuring Charlotte and the Barbershop Cows, as part of its School Milk Project.

The project was recently awarded funding by the European Commission and aims to educate teachers, parents and children about the health benefits of drinking milk.

Diane Cannon, School Milk Project Manager, said, "Charlotte the Cow has already proved a big hit in the interactive CD Rom we produced this year.

“Schools that start milk schemes get a copy of the CD plus a leaflet for the children. Charlotte is getting the message across to children about the health benefits of milk in a fun and engaging way.”

Some may raise questions about the ethics of offering mobile phone ringtones in a project aimed mainly at primary school children, aged between seven and 11 years.



Cannon said it did not necessarily mean kids running around with Mootone on their phones. “If this ringtone can promote awareness of the project’s Web site, and through that the work of the project, then even more children can benefit.”

The MDC claimed that the School Milk Project as a whole had helped to get more than 250,000 children across Britain enrolled into milk drinking schemes.

This, it said, represented 8.5m liters of milk per year – something that could help a dairy industry that recently saw the first rise in UK milk consumption for 30 years.

Mootone is free to download from the School Milk Project Web site at www.schoolmilk.co.uk/.

This article was excerpted from a Sept. 26 article that appeared in Dairyreporter.com



Dr. Joe O'Donnell, CDRF Executive Director and other members of the U.S. Dairy Export Council Business Development Mission to Germany and Ireland in October 2005, stand outside of the Institute for Dairy Innovation and Marketing, Kempten Germany. Pictured from left, Dr. Michael Carl, Dr. Rusty Bishop, Dr. Ulrich Leist, Dr. Gonca Pasin, Dr. Joe O'Donnell, Mr. George Hertzberg, Mr. Bernhard Vollmair, and Ms. Veronique Lagrange

Calendar of **EVENTS**

November 10-11, 2005

Second International Symposium on Milk Genomics and Human Health. Location: COPIA—The American Center for Wine, Food and the Arts in Napa, CA. For more information, Call Jennifer Giambroni at (415) 254-4549, or send an e-mail message to jgiambroni@sbcglobal.net.

February 7-9, 2006

World Ag Expo, Tulare, CA. For information, call (800) 999-9186, or visit www.worldagexpo.com on the Web.

February 27-28, 2006

Eighth Symposium on Advances in Dairy Product Technology—Concentrated and Dried Dairy Ingredients. Location: The Cliff's

at Shell Beach, Shell Beach, CA. For more information, call Laurie Jacobson at (805) 756-6097, or visit www.calpoly.edu/~dptc.

March 21-24, 2006

Eighteenth Annual Cheese Short Course I. Location: Cal Poly Dairy Products Technology Center, Cal Poly, San Luis Obispo. For more information, call Laurie Jacobson at (805) 756-6097, or visit www.calpoly.edu/~dptc.

April 18-19, 2006

Twelfth Annual Milk Processing Technology Short Course. Location: Cal Poly Dairy Products Technology Center, Cal Poly, San Luis Obispo. For more information, call Laurie Jacobson at (805) 756-6097, or visit www.calpoly.edu/~dptc.

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(Agroterrorism *from page 1)*

to retail. In their daily work, they are positioned to prevent, detect and respond to acts of terrorism. Also, they are vulnerable to terrorist acts directed at farms, processing plants, or food retail outlets.

Through the support of the California Department of Health Services Emergency Preparedness Office, the Western Institute for Food Safety and Security (WIFSS) and its partners have developed an agroterrorism awareness training course targeted to farm workers in the dairy industry. "WIFSS has been designated a 'Training Partner' of the Department of Homeland Security with the goal of improving our preparedness to prevent and respond to agroterrorism or major natural disasters in the food systems. We cannot succeed in protecting our food systems in this country without enlisting the help of the labor force. We have found that farm workers are vitally interested in being a part of the agroterrorism defense teams," said Jerry Gillespie, Director of WIFSS.

The course targets three important areas of concern:

- Identification and response to foreign animal disease
- Product contamination in the dairy
- Traffic awareness in the dairy

The key messages of all three training modules are the following:

- Understand that intentional harm is possible in the workplace.
- Develop awareness to help guard against intentional harmful acts.
- Understand the farm worker's role in reporting signs of animal diseases and suspicious activities.

The training material includes an instructor and participant manual, along with a slide presentation and a take-home novella (comic-book story), which reinforces the training messages through illustrations. All materials are written in English and Spanish.

The training course was field-tested in the North Bay and Central Valley region of California during July and August. Focus groups were used to ensure that the materials communicated effectively with the target audience. A total of 57 dairy workers, participated in the pilot training. Several dairies were involved in hosting the focus groups and providing workers for the training. The participating dairies included Charles Ahlem Ranch, Hilmar; De Bernardi Dairy Inc, Petaluma; McClelland's Dairy, Petaluma; Rancho Laguna Dairy, Santa Rosa; and Jer-Z-Boyz, Pixley.

The response from the focus groups was very positive. The workers appeared engaged during the

training, asking questions and participating in the discussion. "What amazed me was the interest displayed by the dairy employees," said Michael Griffin, Corporate Coordinator at Clover Stornetta Farms—an observer at several of the focus groups. "They all seemed to grasp that they were protecting their own jobs by being vigilant, and appreciated the reassurance that a stranger on the ranch was something to be concerned about."

Most participants appreciated receiving the training. They said that, as a result of the training, they would be more attentive in the future to those who come onto the property and that they would feel more comfortable about reporting suspicious activities or persons.

"I never thought something like this could happen on the farm," said one participant. Another said that in the past he was afraid to ask strangers about their business at the dairy because he thought he might get into trouble. "Now," he said, "I won't be afraid to approach a stranger to ask why they are on the property."

The training materials are available on disk for interested dairies. Please send an e-mail message to Sharon Avery at savery@wifss.ucdavis.edu to request a copy.

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