

CALIFORNIA Dairy Dispatch

RESEARCH, EDUCATION AND SERVICE TO SUPPORT THE DAIRY INDUSTRY

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FROM CDRF'S EXECUTIVE DIRECTOR

Environmental concerns a worldwide issue

Product development, advertising, education, press releases and promotion campaigns have one basic mission—to persuade consumers to purchase your product. That persuasive power derives from the ability to influence consumer attitudes. Consumer attitudes develop from the deep recesses of the mind—from areas that at first blush you might think have little to do with the product itself.

Environmental concerns are high on everyone's list today, especially as we see our children developing asthma or other problems stemming from air quality. Likewise, people want clean water. These are the most fundamental of attitudes. Upon hearing that milk is being produced by a dairy that doesn't comply with environmental regulations, the consumer will likely boycott not only that dairy but all dairy products. All efforts to increase sales of products will be wasted.



Facing this reality the California dairy industry sanctioned establishment of the California Dairy Quality Assurance (CDQA) committee through which to enact a plan to stay ahead of the issue. You will see in this edition of the *California Dairy Dispatch* the remarkable successes reaped by this concerted effort to keep California's dairies within compliance of myriad environmental regulations and to elevate public perception of the dairy industry as a good environmental steward.

Another facet important to consumer attitude is food safety, which begins on the dairy. Once again the CDQA has moved aggressively to confront this issue so that a continued supply of the highest quality milk will be delivered to consumers.

I believe you will appreciate reading about these issues and encourage you to contact any of the people mentioned in the following articles with your comments and questions.

—Joseph O'Donnell

An overview of the CDQA Program

By Michael A. Payne

Recent years have seen a rash of media events related to E. coli, Salmonella, "Mad Cow Disease," Cryptosporidia and Bovine Growth Hormone which left the industry scrambling to protect its image as a producer of safe and wholesome products. In an effort to ward off potential deterioration of its market size, a committee was formed in 1997 composed of producers, processors, packers, regulators, Cooperative Extension personnel, dairy lobbyists and university representatives. The committee's goal was to investigate, plan and implement a California-specific dairy quality assurance program (CDQAP).

Following a statewide survey of more than 400 producers and a series of meetings by focus groups consisting of 55 industry leaders, the CDQA Program began in earnest in 1998. Funding for that year's activities was provided by a

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CDQAP *from front page*

\$75,000 grant from the California Manufacturing Milk Advisory Board funneled through the California Dairy Research Foundation.

The initial program components identified by focus groups included food safety (both microbial and chemical), environmental stewardship and animal care/welfare. Industry leaders suggested development of a series of educational programs that would be offered to producers who want to be certified in these three areas, much like the beef industry's quality assurance program.

In 1998 the state's producers saw increasing focus on their operations by state and federal environmental regulatory agencies. This shift in regulatory priorities culminated with extensive media coverage, several large

fines, and even sentencing of a producer to a jail term. In March the CDQAP's steering committee directed that environmental stewardship become the program's top priority. The task before the committee was to develop and fund an environmental education certification program that would meet with regulatory agency approval.

The committee met with representatives of every agency having regulatory authority on California dairies. These discussions clarified that 1) every dairy would be required to develop a plan to protect surface and ground waters and 2) by the year 2005 every dairy would be inspected to see that its plan was in place and functional. Negotiations concluded with the signing of the "Environmental Stewardship Partnership Agreement" on Oct. 9, 1998, by 14 state, federal, university and industry organizations. The federal EPA joined the partnership a year later (see story on page 5).

The partnership agreement creates a mechanism by which dairy producers can voluntarily request certification of their facilities as complying with all state and federal regulations. The program was modeled after other successful regulatory/industry agreements that had eradicated brucellosis from California and had established voluntary industry-based certification of the state's egg farms. The dairy environmental stewardship program remains educational in nature with both classroom and on-site assistance.

Dr. Deanne Meyer, the University of California's animal waste specialist, directs an environmental module, utilizing a short-course curriculum that she had already developed. Under her direction, classes have been held throughout the state. By September of this year, more than 1,200 producers have attended classes, with more than 550 of them completing

the entire three-class program. Demand for these courses has been so high that Gary Veserat was brought on board to assist in its delivery. One of only 900 certified professional animal scientists in the country, Veserat has some 25 years of industry and university experience.

To date the CDQA Program has applied for or received more than \$600,000 in grants, and created a forum in which the dairy industry could, for the first time, negotiate directly with state and federal regulatory agencies.

Michael Payne, D.V.M., Ph.D., is assistant director of the Western Region Food Animal Residue Avoidance Databank, Department of Environmental Toxicology, UC Davis.

CDQ

Food Safety Task Force develops emergency plan

After three emergency animal health situations occurring over a period of two years resulted in the deaths of hundreds of cows on California dairies, California Department of Food and Agriculture (CDFA) Secretary William Lyons called for the formation of a special task force. This task force was organized to establish appropriate communication and action protocols to respond to threats to dairy animal health and food safety that may develop in similar cases in the future. In June, the Dairy Food Safety Task Force, composed of representatives from industry, academia and government, met for the first time to discuss these important issues and develop an action plan.

Richard Breitmeyer, D.V.M., director and state veterinarian, Animal Health and Food Safety Services, CDFA, is charged with facilitating the task force. "The task force was established to develop and implement an

(See "Task Force" on next page)



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Task Force *continued*

action plan, then will likely dissolve," he said. "However, many of the action items will continue and be supported through the ongoing California Dairy Quality Assurance Program."

In addition to guidelines and procedures for handling on-farm dairy emergencies, participants discussed

critical services provided by the California Veterinary Diagnostic Laboratory System (CVDLS), where diagnosticians are available 24 hours a day, seven days a week.

The plan also emphasized the producer's responsibility to immediately notify his or her milk handler following any event that could potentially contaminate the milk supply. Immediate segregation of milk that may be contaminated is

Animal welfare/ international trade

By Pamela Hullinger

It is important to remember that in any marketplace consumers have a choice about what products they buy, based on whether or not a product meets their standards. Negative information about a product, no matter how incorrect or unproven, can be a dominant influence on consumer purchases. Trends in affluent markets have shifted from price to quality and now to conscience. Consumers are increasingly concerned about the care and handling of animals that provide food for them.

The dairy industry in the United States had enjoyed unparalleled consumer confidence. Dairies do not traditionally fit the image of the "factory farm." The livelihood of the producer depends upon the long-term health and well-being of the animals. It is important for the industry to protect this positive image. Market research has shown that it is five times more expensive to attract a new customer than to keep an existing one. Issues that detract from an industry's image and reputation will likely influence customer confidence, resulting in sales declines. The key to continued success for any industry is to identify and address those issues while ensuring clear and consistent communication with consumers.

Although the U.S. dairy industry is not currently heavily export-oriented, more global marketing channels will be utilized in the future. Ninety-six percent of potential customers for U.S. products, including agricultural products, live outside the United States. Currently the total export market for U.S. agricultural products is 25 percent of production.

Emerging standards for international trade of agricultural products

(See "International" on page 4)



outreach and training programs, as well as integration of the action plan into the food safety component of the California Dairy Quality Assurance (CDQA) Program. The first draft of the action plan recommended that every producer should establish a cooperative working relationship with a practicing veterinarian and that, in most cases, the veterinarian would be the first person the producer calls in the event of any unusual condition affecting the health of his or her animals. The veterinarian will then play a vital role in recognizing potential health or safety risks to milk or meat and report to CDFA through the district supervisor of the Animal Health Branch or the regional administrator of the Milk and Dairy Foods Control Branch. In addition, veterinarians will be encouraged to utilize the diagnos-

essential to protect public health until adequate testing and review is completed.

Additionally, the task force is responsible for developing an itemized list of outreach materials and identifying funding needed to achieve outreach goals. Ongoing education/outreach efforts will be delivered to the dairy industry through the food safety component of the CDQA Program.

Finally, the task force developed a subcommittee to explore establishment of a fund through the legislative process that could be utilized to compensate a producer for loss of cows or milk following a catastrophic animal health or food safety event.

END

Environmental Stewardship short course and innovative checklist help producers and regulators find common ground

Enthusiastic response from initial participants indicate that the newly developed Environmental Stewardship Short Course and accompanying checklist will go a long way in helping producers comply with complex, confusing and often conflicting government regulations.

The Environmental Stewardship Short Course presented through the University of California Cooperative Extension under the California Dairy Quality Assurance Program (CDQAP) umbrella was developed in response to the frustration expressed by producers who had become increasingly baffled by the regulatory maze under which they were forced to operate. Representatives of 12 regional, state and federal regulatory agencies were asked to participate with the dairy industry in crafting and approving an educational program to encourage environmental stewardship through improved manure manage-

ment techniques.

The checklist is still undergoing refinements, but draft versions field-tested at several dairies around the state have already confirmed the validity of the program.

"Regulators do not tell you what you need to do. They tell you when you have a problem," declares Steve Nash, who with his family operates a 700-cow dairy and farms 400 acres of alfalfa, corn and wheat in Selma. "It's frustrating to be told you need to comply with a law that you've never heard of and you don't know where to start. The checklist gives you a visual idea of what you need to do. It's written in plain language, not regulatory language," says Nash, who participated in a pilot-test of the checklist on his dairy.

Nash, who was a member of the Dairy Food Safety Task Force and is the state dairy chairman for the California Farm Bureau, said he sup-

ported the short course and checklist development because of his concern about conflicting regulations arising from contradictory standards from different agencies.

"I realized that dairymen who stood alone could be picked off one by one," said Nash, who was skeptical about the amount of paperwork that adherence to the clipboard guidelines might require. "I worried that I might be required to go to the lagoon every day to monitor the water and maintain a paper trail. Well, we established a practice of rotating responsibility among several of our people to check the lagoon daily as they pass by on the way to do other jobs, such as feeding livestock. So it's not really a hardship after all."

Dairyman Rick Michel of Waterford in Stanislaus County praises the short course program, which he says prepared him well for an inspection by the federal Environmental Protection Agency. "The EPA sent two representatives. One of them used a global positioning receiver in a backpack as they reviewed the facilities. They made very few comments," recalls Michel, who said the short course prepared him about what to expect. "I already knew what the EPA people were looking for, and they seemed really impressed by the fact that we were following the workbook from the courses and keeping records that tracked dairy nutrients and solids."

Michel's 70-year-old dairy operation comprises 1,050 cows and 250 acres of silage he grows, including winter forage and corn. He said the modifications the EPA requested were reasonable. "They wanted to make triply sure that nutrient-handling equipment, including pipelines

International *from page 3*

will be hotly debated over the next three years by the 134-member nations at the World Trade



Organization's (WTO) Ministerial Conference beginning in Seattle in December. One of those standards is likely to be animal welfare. Franz Fischer, EU Agricultural Commissioner for Farm Ministers, recently stated, "We must make sure an ani-

mal welfare provision is not just confined to Europe. We will raise the subject in the upcoming WTO round and it will be of enormous importance. It must be taken into account on the international stage."

The United States must be prepared to address animal welfare issues on an international level or risk facing a significant barrier to international trade.

Pamela Hullinger, D.V.M., is a staff veterinarian with the California Department of Food and Agriculture Animal Health and Food Safety Services. She specializes in the area of agricultural animal welfare.

ODD

(See "Producers" on page 8)

EPA joins dairy partnership, awards \$443,740 clean water grant

On Sept. 9, the U.S. Environmental Protection Agency, Region 9, joined the California Dairy Quality Assurance Program (CDQAP) by awarding a \$443,740 grant to the state Water Resources Control Board to support the CDQAP. The grant will be used to fund 10 Environmental Stewardship short courses on dairy waste management annually and 1,000 on-site evaluations over the next three years. The course consists of three two-hour sessions in which dairy operators learn ways to comply with environmental regulations, including requirements that:

- ▶ Animals are prevented from entering surface waters such as streams and ditches in confined areas of dairies;
- ▶ Wastewater and contaminated rainfall, even during rainstorms, must be contained;
- ▶ Waste storage ponds must be protected from inundation or wash-out;
- ▶ Waste ponds must be constructed so that potential contamination of groundwater is minimized; and
- ▶ Manure or wastewater must be applied to croplands in ways that pre-

vent surface runoff and minimize percolation to groundwater.

"Helping to educate our dairy farmers on how best to comply with the often complex and wide-ranging rules and regulations on water quality issues will help us achieve the ulti-



William J. Lyons Jr., secretary of the California Department of Food and Agriculture, speaking at the dairy quality partnership signing event at the UC Davis Dairy on Sept. 9. (Photo: David D. Schmidt, U.S. Environmental Protection Agency)

mate goal of protecting our environment," said William J. Lyons Jr., secretary of the California Department of Food and Agriculture.

Water pollution from dairy waste is a potential threat. California's roughly 2,400 dairies average 550 cows each, and a single cow produces 22 tons of waste per year. That adds up to nearly 30 million tons of

dairy waste per year. This waste can be safely applied to croplands as fertilizer, but dairies must manage the waste carefully to keep it from fouling the state's waterways. Nutrient-rich pollution from dairy waste can make water undrinkable and use up the water's dissolved oxygen. This can kill fish and other aquatic species or prevent them from living in chronically oxygen-starved waterways.

"The goal of the Environmental Stewardship Partnership Agreement is 100 percent compliance with county, state and federal water and air quality regulations," said Deanne Meyer, a livestock waste management specialist with UC Davis who conducts the Environmental short courses "Dairy producers who have attended our short

courses appreciate the opportunity to get a copy of the state regulations and get answers to questions they have on regulatory requirements. Producers are best situated to understand and manage their resources when they have a better understanding of their regulatory obligations."

DD

People in the news

John Bruhn presented citation award

The International Association of Milk, Food and Environmental Sanitarians (IAMFES) presented the 1999 Harry Haverland Citation Award to Extension dairy food specialist John Bruhn, Ph.D., in the Department of Food Science & Technology. He was honored for his dedication to the ideals and objectives of the soci-



Dr. John Bruhn and his wife, Dr. Christine Bruhn, at IAMFES annual meeting in Chicago.

ety and for his accomplishments in the field of food safety.

Moo Juice gives Cal Poly grad student, alumna second national contest win

A recent contest sponsored by the National Starch and Chemical Co. led to an all-expenses-paid trip to the Institute of Food Technologists Con-

(See "People" on page 7)

"Checklist" consolidates federal, state and local regulations

Certifications of dairies could not begin without state and federal agreement about what constituted compliance with all regulations. A single document that consolidates all federal, state and local regulations has never been created, until now. On Oct. 20, 1998, a work group of federal, state, university and industry representatives met for the first time with the goal of producing a "checklist" to be used in the certification process.



The most technically demanding effort undertaken by the program, the checklist has taken six months

and numerous drafts to compete. "If the CDQA Program's Environmental Stewardship component is going to succeed, the evaluator has to make

sure the dairy meets everyone's standards—hence the checklist," says Dennis Wilson, staff veterinarian for the Food Safety Animal Health Branch of the California Department of Food and Agriculture, who helped to craft the checklist. "We're still working on differences in county regulations; however, the current version of the checklist was developed by a committee representing the dairy industry, federal EPA, state Water Resources Control Board, USDA, Natural Resource Conservation Service, Farm Bureau and others, who worked together to develop a comprehensive checklist encompassing federal, state and local regulations."

Deanne Meyer, a dairy waste management specialist with UC Cooperative Extension, developed the Environmental Stewardship Short Course and was also instrumental in creating the checklist.

"Before the checklist was devel-

oped, producers only guessed if conditions were acceptable on their properties," says Meyer. "The checklist serves as an educational vehicle to allow producers to more fully understand how regulators see their property. For example, a dairy producer might see a pile of manure, but someone from a regional water quality control board might view the pile as a threat to drinking water."

The checklist is currently being beta-tested on commercial dairies. "It took us two months to get the first list to test on dairies," says Meyer. "That's a mighty great performance given that producers have asked for such information since the mid '70s and regulatory agencies were not previously able to assist. The CDQA Program's Environmental Stewardship partnership agreement has been a wonderful vehicle to allow individuals to work cooperatively."

DD

California meat packers get involved with CDQAP

By Dennis Wilson

The new quality assurance program under development within the California dairy industry is based on a model of success—the California Beef Quality Assurance Program, undertaken voluntarily by the state's beef industry. Cull dairy cows contribute an estimated 18 to 50 percent of the beef produced in the United States annually. Approximately 1.5 billion pounds of cull cow tissue reaches the American consumer every year. More than one-third of California's 1.4 million dairy cattle are slaughtered annually, actually surpassing the number of beef cattle killed in the state.

The California Dairy Quality

Assurance Program (CDQAP), National Meat Association (NMA), California Department of Food and Agriculture, Food Safety Inspection Service (FSIS), California Department of Health Services, UC Cooperative Extension, UC Davis School of Veterinary Medicine, Veterinary Medicine Teaching & Research Center, and the Food Animal Residue Avoidance Databank have agreed to participate in a cooperative project funded by FSIS to develop a food safety education program that can be incorporated into the CDQAP's food safety module.

The CDQAP is intended to establish a formal structure to advise the state's dairy producers of scientifically verified safe practices and to

establish a procedure for producers to document the conditions under which their cull cows were produced. These goals are consistent with the needs of the packing industry (mandated by the new HACCP regulations) to create a system in which "raw material" documentation represents the first "critical control point." Along with advising producers, these materials will be made available to the state's packers. Acceptance and use of the food safety practices adopted by CDQAP may provide dairy operators a marketing tool for their beef.

The packers of California dealing with dairy cull beef have al-

(See "Packers" on page 8)

New food safety course being developed for producers

By Michael A. Payne

With the success of the environmental stewardship short courses, the California Dairy Quality Assurance Program has begun work on a similar short course program focusing on food safety.

Within the last two years California dairy producers have experienced animal health emergencies that resulted in the deaths of hundreds of cows. These have included a pesticide poisoning in August 1997 resulting in 159 cow deaths, a botulism case in April 1998 resulting in 430 cow deaths, and the more recent botulism case last May resulting in more than 200 cow deaths. California is not alone. Similar cases are being reported virtually every month throughout the nation. In each of these cases, affected cattle could not be slaughtered for meat, and milk was discarded. The producer's loss of

cows and milk production can be devastating.

The California Department of Food and Agriculture (CDFA) is creating an "action plan" to help prevent or limit these types of losses in the future. However, in order for it to work, the state's processors must become familiar with the most recent food safety procedures. A food safety curriculum would cover a variety of milk- and meat-related issues, including drug residues, antibiotic resistance, pathogens such as Salmonella and E coli, and injection-site lesions.

With the environmental stewardship program now under way, the CDQA Program has begun work on a food safety curriculum. A considerable amount of funding has been acquired from organizations interested in beef safety. An initial \$30,000 grant from the California Beef Council has been merged with a \$49,500 grant to develop training materials to help

dairy producers meet the legal obligations of the cull cow packing plants. Cooperating in this effort are CDFA, USDA, California Department of Health Services, the National Meat Association and the University of California. With this work under way, the program has begun to address milk safety issues.

Dr. Dale Moore from the UC Davis School of Veterinary Medicine is developing a three-day food safety curriculum for bovine practitioners throughout the state. Veterinarians who complete this course will then teach the day-long short course to the dairy producers. This short course will be modeled after the highly successful beef quality assurance program. As with all components of the CDQA Program, participation is strictly voluntary. This program provides producers with the knowledge to protect their herds from a potentially devastating event.

CDP

People from page 5

ference in Chicago for Moo Juice creators Beth Fryksdale and Kelly



Beth Fryksdale with Moo Juice

Munsell. This is the second time Fryksdale, a second-year Cal Poly College of Agriculture graduate student specializing in dairy products tech-

nology, and Munsell, who received her master's degree in agriculture at Cal Poly in 1998, received a national honor for their innovative product. While in Chicago Fryksdale and Munsell had dinner with key executives of the National Starch and Chemical Co. and participated in a press conference announcing their product. The calcium-rich Moo Juice, intended for children 5 to 11, is a line of dairy-based mixes that, when combined with cold water and shaken, create a thick, foamy "shake." The beverage comes in a variety of flavors that appeal to children. According to Fryksdale, Moo Juice is nutritious and carries the prototype motto, "As healthy as a glass of milk, but more



Kelly Munsell

fun." The Novation Starch Product Development Contest challenged contestants to develop a food product made with Novation starches. Rafael Jimenez, a professor in Cal Poly's Dairy Products Technology Center, advised the Moo Juice team.

Cal Poly grad student wins IFT student paper contest

Maurice Pitesky, a graduate student in the Cal Poly San Luis Obispo Dairy Products Technology Center, received first place in the student paper contest of the Dairy Foods Division at the annual meeting of the Institute of Food Technologists in Chicago last July. His paper was titled "Development of a direct PCR assay for the detection of the most commonly isolated Bacilli spore formers identified in milk powder produced in California."

CDP

Producers *from page 4*

and valves, are in tight working order without leaks or discharges of any kind. We made some modifications in our physical plant, and just completed construction of a new \$60,000 concrete holding pit to collect water runoff from flushing corrals. Nobody told us to make that or other specific changes, but we were motivated on our own to take extra precautions."

Michel said some of the new measures his operation has instituted may actually save money. "We've begun to keep track of liquid nutrients. We take water samples, and by monitoring the flow of gallons per second past a valve, we're able to calculate the nutrient values of what we discharge into the ground," Michel explains. "By monitoring the nitrogen, pH levels, salts, potassium and trace minerals, we may be able to reduce purchase of fertilizer for the next crop on a particular piece of land. We've already begun selling excess solid fertilizers."

Michel says he believes these educational programs will have far-reaching implications. "Producers and the dairy industry as whole will now be able to demonstrate to consumers, environmentalists and politicians that we are voluntarily entering agreements and engaging in a plan of action to make us better stewards of land within the framework of

economic practicality. This effort gives us credibility as an industry that we are trying to do the right thing for the environment," says Michel, who is a member of the board of directors of the California Milk Advisory Board. "The industry really owes credit to state Secretary of Agriculture Bill Lyons Jr., his predecessor Ann M. Veneman, Chuck Ahlem, who chaired the Dairy Quality Assurance Committee, and Joe O'Donnell, executive director of CDRF, all of whom had the foresight to make the meaningful commitments that enabled this new approach."

Michel and Nash believe that both the course workbook and the checklist will help keep dairy operators and regulatory agencies literally and figuratively on the same page.

CDR

Packers *from page 6*

ready contributed to the production of educational materials through their participation in a survey of their food-safety needs. The need to practice residue avoidance and the importance of cattle cleanliness and proper cattle handling techniques have been identified by some packers as potential instructional topics. Packers surveyed have expressed interest in the CDQAP because it provides an ideal

opportunity for working cooperatively with the dairy industry to improve food safety.

Dennis Wilson, D.V.M., is a food safety staff veterinarian in the Animal Health Branch of the California Department of Food and Agriculture.

CDR

Calendar of **EVENTS**

Ice Cream Manufacturing Short Course, Nov. 3-5, Ontario, Calif.

Pacific Region Milk Seminar, Nov. 16-18, The Atlantis Casino Resort, Reno, Nev.

HTST Short Course, Jan. 25-27, Ontario, Calif.

California Dairy Industries Association (CDIA) annual conference, Feb. 16-17, DoubleTree Hotel, Sacramento.

For program information on the above events, contact John Bruhn at UC Davis, (530) 752-2192; e-mail: jcb Bruhn@ucdavis.edu.

Please watch for an updated calendar on the CDRF Web site at www.cdrf.org.