



# Western Dairy News

For the West, About the West, From the West

A collaborative effort of Dairy Specialists from



Knowledge to Go Places



## *Dairy Beef: Maximizing Quality & Profit*

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Dairy producers not only ship milk, they are in the beef business too! Dairy cows represent a major source of beef. Cows marketed to slaughter can represent up to 15% of a dairy's income and in the western states alone, over 800,000 dairy cows worth about \$500 million are marketed to slaughter every year. New demands on meat packers as a result of Hazard Analysis Critical Control Point plan implementation have sharpened the focus of their attention on the quality of cattle coming into the packing plants.

In response to this increased attention by packers to the quality of incoming beef and dairy beef cattle arriving at their plants, the development of a distance learning program was initiated by Dr. Dale Moore at the University of California Davis, School of Veterinary Medicine. She was supported in this program by dairy scientists, veterinarians and media specialists from seven western states. The purpose of the program is to educate dairy producers, farm advisors and dairy veterinarians on the issues in market cattle food safety and quality and provide tools for assessing and certifying on-farm quality assurance programs. The program consists of a number of educational segments including videos, slide sets and written materials. The design of the course allows participant control over the delivery of the educational program. They can move through the segments at their desired pace and order. Additional, detailed information is provided through links to other resources about market cattle food safety and quality. The program was sponsored by the University of California, the California Department of Food and Agriculture, the California Dairy Quality Assurance Program, USDA-FSIS: ADEC and Phillip Morris.

We believe that there many important reasons for dairy producers to complete this program. First, the future of beef markets for dairy cattle may well depend on the quality of the dairy cattle arriving at the slaughter plant and the assurance that they are residue free. Some packers are already turning away cows from dairies with a record of previous residues. As we are all aware, there is increasing public concern for the quality and safety of all types of meat, including dairy beef. If consumers believe that there is a risk to their safety from beef, even though it may not be true, they will likely reduce consumption. As we have heard so many times, their perception is really their reality!

One segment on the website is an interview with a packer that provides a look at the concerns of the packing industry. Your market for dairy cows will increasingly depend on meeting the expectations of both the packers and consumers. Just like the milk shipped off your dairy, market dairy cows are food. They become food just as soon as the decision is made to send them to market. As you can find out from the "Mr. Food" video, dairy cows become much more than hamburger at the meat processing plants. In the future, the condition and quality of the dairy cows shipped to market and the amount of those cows that can be used for higher quality meat cuts will influence their value. All these reasons strongly suggest that the continued existence of the dairy beef

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## ***New CAFO Federal Regulations Have Arrived***

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During the last few years the US Environmental Protection Agency (EPA) reviewed and revised its regulations related to animal feeding operations (AFO). The 'new' regulations define which of the AFO are concentrated animal feeding operations (CAFO) and what their legal obligations are. In order to better understand the meaning of these regulations to dairy producers, let's review some history.

In the late 1980s, US EPA signed a court consent decree that obligated them to review and revise specific point source categories associated with the Clean Water Act National Pollutant Discharge Elimination System (NPDES) regulations and address the Effluent Limitations Guidelines (ELG) which, simply stated, are the requirements of the facilities that are in the NPDES category. The NPDES clearly identifies standard industrial codes (SIC) and defines which of the facilities are considered point sources. Once a facility is defined as a point source, it is obligated to obtain coverage through the NPDES permit program. For dairy, point source definitions have been described in a three-tier system: large (greater than 700 milking and dry cows); medium (between 200 and 699 milking and dry cows); and small (less than 200 milking and dry cows). The associated ELG for NPDES permitted facilities have been that the facility waste storage be designed and managed to contain manured runoff from storm events of intensity of a 25-year, 24-hr storm or a chronic storm event. These facilities were allowed zero discharge except in the event of the previous mentioned storms. The "new" regulations should have appeared in the February 2003 Federal Register. These regulations will impact you by mid 2006. The timeline for implementation depends on your State Regulatory Authority.

### **Who is a CAFO?**

The three-tier system remains. The large, medium and small sized facility cutoffs for milking and dry cows remain unchanged (700, 200 to 699, and less than 200 cows). An additional category was added to address heifer operations. The large definition is 1,000 head and over (regardless of animal size); medium is 300 to 999 head; and small is less than 300 head. The large facilities will be CAFO and need to comply with regulations just promulgated. Medium sized facilities may be CAFO if they discharge directly to a surface water or through a man-made conveyance to a surface water. Small facilities can be designated a CAFO by the permitting authority.

### **What do I do if I am a CAFO?**

Facilities that fit the CAFO definition have a "duty to apply". It is the dairy operator's responsibility to obtain, complete and file paperwork with the appropriate State or Federal authority. (Most States will be the lead on this. There are a few that will work directly with US EPA).

### **If I have coverage now under an NPDES permit do I need to do anything?**

If you have coverage under a general or individual NPDES permit that is CAFO specific and it covers the production area and the land application area, you should be fine. If you have coverage under a storm water permit you will need to apply for coverage under an NPDES CAFO permit. Most States will probably adopt a general permit in the next year or two.

### **What are my obligations if I need an NPDES permit?**

Considerable attention is needed for both the production area and the land application area. A nutrient management plan will be necessary. This may be a Comprehensive Nutrient Management Plan depending on the State. All permitted CAFO must have their nutrient management plan developed and implemented by December 31, 2006. The highlights, but by no means the complete list, of items included in a nutrient management plan are:

- Provide adequate storage of manure, litter, and process wastewater.
- Establish procedures to ensure proper operation and maintenance of storage facilities.
- Manage mortalities properly.
- Divert clean water appropriately.
- Prevent animal contact with water of the US in the confined area.
- Dispose of chemicals and other contaminants handled on-site properly.
- Implement conservation practices to control runoff of pollutants.

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Identify protocols for nutrient testing.

Establish protocols to land apply manure nutrients in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients.

Identify specific records that will be maintained to document the implementation and management of these elements.

Keep records for 5 years.

Provide manure recipients with most current nutrient analysis.

Submit an annual report to the permitting agency.

### **What specifically is a nutrient management plan?**

“A plan developed based on a field-specific assessment of the potential for nitrogen and phosphorus transport from the field and that addresses the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters.”

### **How will application rates be determined?**

Application rates must minimize phosphorus and nitrogen transport from the field to surface waters. Two standards are included in the rule:

1) field-specific assessment of the potential for nitrogen and phosphorus transport from the field to surface waters;

2) include appropriate flexibilities for any CAFO to implement nutrient management practices to comply with technical standards, including consideration of multi-year phosphorus application on fields that do not have a high potential for phosphorus runoff to surface water, phased implementation of phosphorus-based nutrient management, and other components as determined appropriate by the permit authority.

### **What is the status of setback requirements?**

Manure or process water may not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters unless the CAFO exercises one of the compliance alternatives. These are:

1) 35-ft vegetated buffer where application is prohibited or

2) demonstration that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-ft setback.

### **What other main points must a CAFO address?**

Additional measures include visual inspections of storm water diversion devices, runoff diversion structures and devices channeling contaminated storm water to the wastewater and manure storage and containment structure (weekly), water lines including drinking water or cooling water lines (daily) and manure, litter, and process wastewater impoundments (weekly) noting the level as indicated by the depth marker. Facilities with open surface liquid impoundments must have a depth marker which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-yr, 24-hr rainfall event. Any deficiencies found during these inspections must be corrected as soon as possible. Mortalities must not be disposed of in any liquid manure or process wastewater system, and must be handled to prevent the discharge of pollutants to surface water.

### **Do I need to hire someone to keep records?**

You may choose to have multiple individuals responsible for data entry into log books and then have one individual maintain the records and analyze your data. Otherwise, you may hire a consultant or work with your nutritionist or veterinarian to assist in your record keeping activities. In addition to all of the records discussed, you will need to maintain copies of annual nutrient analyses for manure and soil analyses every five years. Crop yields, application dates, amounts, and nutrient content, and weather conditions at application will all need to be recorded.

### **When does all of this begin?**

The implementation of the new rule will vary from State to State. At the moment, there are many questions from State regulatory agencies to US EPA and from producer groups to US EPA and State regulatory agencies. You should be patient and be aware that regulations will be modified and you will need to comply with the new regulations.

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market depends on how the dairy industry responds to the changing expectations of beef packers and consumers.

There are seven sections to the educational program of which four must be completed to obtain certification.

Section One (35 minutes) contains the reasons for participating in this educational program, a Mr. Food video, the video interview with a packer, a virtual tour of a packing plant, and an introduction to HACCP. Section Two\* (15 minutes) looks into why dairy cows might be condemned at slaughter and how you can avoid some condemnations. Section Three\* (20 minutes) explores both drug and toxin residue avoidance by providing a video on the reasons for and tools to address residues on your dairy. Section Four\* (20 minutes) discusses prevention of carcass defects that can result in excessive trim at the slaughter plant and ways to reduce quality defects in dairy cows going to slaughter. Section Five\* (30 minutes) presents information on reduction of biological risks from market cows from potentially harmful bacteria found on dairies. This section also contains information on prudent use of antibiotic on dairy to reduce the development of antibiotic resistant bacteria. As noted by the “\*”, these four core sections are required to obtain a certificate of completion of the dairy beef program.

Two other sections contain additional valuable information. Section Six (15 minutes) provides ideas on improving the carcass quality of dairy cows on the dairy prior to shipment for slaughter to increase the value of the cow. Section Seven (15 minutes) allows participants to give feed back on the course design and delivery. This section also provides a tool for assessing your risks. Each core section includes a short quiz that is emailed to the course moderator upon completion. Once all the quizzes have been received and a successful score obtained on each section quiz, a certificate of completion will be emailed back to the participant.

This program is a distance learning program designed for the adult learner. It is located on the internet at <http://dairybeef.ucdavis.edu>. On the website, various computer options are available to the user to maximize the abilities of their computer to display the slide sets and videos. Once the program is accessed on the internet, it can be used interactively by an individual dairyman or presented to a larger audience by a dairy professional.

In summary, the *Dairy Beef: Maximizing Quality and Profits* program is a web-based educational package designed to help dairymen understand the coming changes that will significantly influence their dairy beef markets. It explains the reasons for completing the program and the anticipated benefits for quality assurance and food safety. The program is self-paced with feedback at the

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completion of each of the seven sections. Individuals or groups can view the programs and it is anticipated that dairy professionals will use this tool for education of their dairy producer clients and farm employees as a part of a dairy quality assurance program.

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### **What should I be doing now?**

First, identify your regulatory authority. Determine if they have an NPDES CAFO permit. If the answer is no, keep in touch until it is available or you may want to get involved in the process of drafting or reviewing the permit. Identify your credible source of information. Begin tracking manure applications. Sample and test manure nutrients. The list may be longer depending on where you are when you start the process.

### **What do I do if I'm stiff confused?**

Identify your most credible source of information: your local cooperative extension agent or dairy advisor, trade associations, milk processors, dairy coalition groups, etc. If consultants arrive to sell you a nutrient plan that will meet your regulatory needs, check their credentials. Call a dairy producer or two who have used the consultant. And check with the regulatory agency staff who have reviewed plans from the consultant to see if they have any concerns with the work.

### **Where do I go for more information?**

The best place to get information is from your State permitting authority and the website for the CAFO rule at <http://cfpub.epa.gov/npdes>. Click on the CAFO rule. The details of the actual changes in the rule begin on page 377. EPA has also made species specific pamphlets and a “frequently asked questions” document.

**Western Dairy News** is published as a service to the people interested in the health and welfare of the western dairy industry. Archives of this publication may be found at <http://animalscience-extension.tamu.edu/dairy/wdn/wdn.html>

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