



## Dairies and Air Quality – An Update

The following was prepared by a group of UC Cooperative Extension, academic, regulatory and dairy industry leaders to inform the dairy community and public about very important activities related to dairies and air quality. Dairy producers, especially those within the San Joaquin Valley, should pay close attention to upcoming deadlines for ensuring compliance with new regulations.

- California is leading the way in continuing to improve the science surrounding dairy air emissions. Determining emissions from dairies is complex due to variability among dairy operations that can impact emissions, as well as the need to evaluate the direct emissions from cows, feed, manure and various dairy processes.
  - Research efforts are focusing on developing and validating research methods, as well as better understanding the emission sources at California dairies, so effective emission reduction approaches can be developed. Interim emission factors are being used while actions to continually improve and focus the science are undertaken.
  - Preliminary findings from new, ground-breaking research on emissions from California dairies are reinforcing the need for sound science based regulation. Through cooperation of California regulatory agencies, research institutions and the dairy industry, understanding of these emissions has increased dramatically over the past two years so that informed decisions about best management practices and appropriate control technologies can be made with more confidence.
- The Air Resources Board (ARB), the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the dairy industry's environmental coalition, Dairy CARES, collaborated on and co-funded two critical projects that are now providing important insight for use in determining Best Available Control Technologies (BACT) and Best Available Retrofit Control Technologies (BARCT) requirements. These projects include:
    - A study at UC Davis, led by Dr. Frank Mitloehner, which focused on emissions from cows housed in environmental chambers
    - A study at two operating dairies in the San Joaquin Valley, led by Dr. Chuck Schmidt, in which measurements were made at many locations on and around the dairy facilities.
  - These studies have been finalized but it is too early to estimate overall emissions and additional research may be necessary. However, preliminary reports suggest new considerations:
    - Fermented cattle feed (silage) appears to be one of the largest sources of dairy-related volatile organic compound (VOC) emissions.
    - Manure in drylot corrals appears to be another important source of VOC emissions on some dairies.
    - Emissions from manure storage ponds, also known as lagoons, and direct emissions from the cows themselves, appear to be far less significant than previously thought.

- ARB and SJVAPCD are taking immediate steps to begin addressing the implications of this important new knowledge. Means of including this new information in the ongoing development of regulations for dairies are being sought. The information will be used to develop cost-effective control measures that will ensure reduced emissions and cleaner air, while minimizing unnecessary economic impact to the state, regional and local economy.
- Longer-term research is also being undertaken. At the January 2006 hearing of the ARB, the Board approved a project with UC Davis to begin development of a process-based dairy emissions model which is designed to model emissions at individual dairies and to further improve understanding of biological processes that result in dairy emissions. Additional research focusing on appropriate methods for storing and managing feed, best management practices for corrals and other innovative control methods is already underway.
- The SJVAPCD is taking all appropriate steps to be in full compliance with Senate Bill 700 (Florez). All new and modifying dairies are currently required to implement the most effective control strategies (BACT). A new regulation, Rule 4570 was enacted by SJVAPCD in June 2006. This rule requires that existing dairies within the district that have more than 1000 cows must apply for air quality permits and submit plans for management practices to reduce air emissions by **December 15, 2006**. Many producers already have air permits from the district. Under Rule 4570, additional steps must now be taken to submit Emissions Mitigation plans to be in compliance with the air permit.
- Workshops will be held in November throughout the San Joaquin Valley for dairy producers to learn more about necessary forms to meet the December 15 deadline. See the following announcement for dates and times.

## **Workshops to assist San Joaquin Valley dairy producers with new air quality rules**

### **Kern County**

**10 am-12 noon Wednesday, November 8**

UC Cooperative Extension office  
1031 S. Mount Vernon Avenue, Bakersfield

### **Fresno County**

**10 am-12 noon Thursday, November 9**

Veterans Memorial Hall  
3085 W. Mount Whitney Avenue, Riverdale

### **Stanislaus County (two workshops)**

**10 am-12 noon and 2 pm-4 pm Tuesday, November 14**

Harvest Hall  
3800 Cornucopia Way, Modesto

### **Tulare County (two workshops)**

**10 am-12 noon and 2 pm-4 pm Wednesday, November 15**

UC Cooperative Extension office  
4437 S. Laspina Street, Tulare

### **Madera County**

**10a m-12 noon Thursday, November 16**

Madera County Fairgrounds Chuckwagon Room  
1000 South 3rd Street, Chowchilla

### **Kings County (two workshops)**

**10 am-12 noon and 2 pm-4 pm Tuesday, November 28**

UC Cooperative Extension office,  
680 Campus Drive, Hanford

### **Merced County (two workshops)**

**10 am-12 noon and 2 pm-4 pm Wednesday, November 29**

Stevinson Hall  
2962 Lander Avenue, Stevinson

### **San Joaquin County**

**10 am-12 noon Thursday, November 30**

UC Cooperative Extension office  
420 S. Wilson Way, Stockton

## **University of California offers workshop on new National Animal Identification System**

Dairy producers will get the latest information at a December 5 UC Cooperative Extension workshop on the new National Animal Identification System (NAIS) that is being developed to trace disease outbreaks in animals. The purpose of the system is to manage and respond to animal disease outbreaks, which can have devastating economic, animal health, and human health impacts.

At the meeting, UC Davis extension veterinarian John Maas will provide an overview of the NAIS used in other countries, and John Evans of the California Department of Food and Agriculture will provide an update on the NAIS and an overview of electronic ID technology and marketing opportunities with animal ID.

The program will be from noon to 3:00 p.m. at the Ag Building Auditorium, 4437 S. Laspina Street, in Tulare. The program is free of charge and includes lunch (RSVP required for lunch reservation). To RSVP, call (559) 685-3303.

For more information about the workshop, contact Debora Bacon at (559) 685-3309 ext. 213 or [dbacon@ucdavis.edu](mailto:dbacon@ucdavis.edu).



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November 2006



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