

ANNOUNCEMENTS

A. Fall Environmental Stewardship Course Participants: The fall Environmental Stewardship Course has been scheduled for November 7 (Class I), Nov. 14 (Class II), and Nov. 28 (Class III) at Centro Basco, in Chino. There is no charge for these classes. Any dairyman who has not already taken these courses, is hereby encouraged to register. You may register by calling me at 909-387-2262 or e-mailing me at awubishet@ucdavis.edu.

B. Fall Environmental Stewardship Consultants' Training: The training for environmental stewardship consultants will be held at the University of California Davis on August 14, 2001. Interested persons may register by completing the attached form and sending their registration fees to the address shown on the form. Please note that the fees (\$50.00) for pre-registration (by or before Aug. 7, 2001) are half the fees for late (after Aug. 7) registration.

C. Veterinary Medicine student dairy trainee: The School of Veterinary Medicine at UC Davis is looking for a dairyman in the Chino basin to train a female vet. student for five weeks this summer. There is no cost to the dairyman as the student will be paid by the Vet. School. Any dairy that wishes to utilize the services of this vet. student and train her on dairy issues, may call Dr. Brad Smith at (530) 752-2957 or call me at (909) 387-2262. You may e-mail Dr. Smith at bpsmith@ucdavis.edu or e-mail me at awubishet@ucdavis.edu.

D. New UCCE Web site: This newsletter, as well as many other resources may be accessed through our new web site - cesanbernardino@ucdavis.edu.

Biomass Utilization to Energy: The dairy and swine industries have for a long time been interested and some have even practiced manure biodigestion for energy. The lumber and furniture industries have also made interesting advances in the use of their refuse (wood chips, tree barks, and agricultural residues) for energy that can and is being used for residential and office complex heating. At the "Biomass Utilization to energy Conference" held June 28-29, 2001 in Yreka, CA, many reports were made about several residents and institutions that use wood chips for all of their heating energy needs. In Vermont, 25 schools, four state office complexes, 25 percent of residential households, two power plants, and three industrial complexes are being heated by wood chips and/or residues of wood and wood products.

CHIPTEC INC., a 16-yr. old Vermont company sells advanced wood (bio-fuel), gasification systems in North America. They offer various size gasifiers for heating and driving turbines for power generation. They have business and technical relationships with associates in the Baltic States, and licensees in Eastern and Western Europe. Wood chips or other refuse from wood products are super heated to about 2500⁰ F and used as a sources of energy (for heating or electricity). For details, one may refer to their web site chiptec.com. The president and part owner of CHIPTEC, Inc. Mr. Robert Bender thinks that it may be possible to use manure with some adjustments. Researchers at Southern Missouri University are working on pelletizing manure fibers and using the pellets for

energy. Shasta college is using wood chips for some of its energy needs, and hopes to obtain most of its energy from wood chips in the near future.

Another company - **Community Power Corporation (CPC)** is involved in renewable energy technology application projects in 15 countries, including Indonesia, Philippines, Thailand, Malaysia, India, China, Bangladesh, Egypt, Iran, Haiti, Papua New Guinea, and Micronesia. CPC uses wood chips to generate heat and electric power in many Third World Countries. CPC's unit can utilize various other agricultural residues, in addition to wood chips for power generation. At this time, CPC is concentrating on producing small modular 15 KWH engines to power 3-4 households. After July 14, CPC will have a unit powering a large green house on Hoopa Indian reservation in Eureka, CA. CPC has funding from government and private agencies including Shell, California Energy Commission and the US/DOE's National Renewable Energy Laboratory. CPC's unit is small enough to fit on a small trailer and can be moved to where ever it is needed by any pickup. The unit is also computerized and is fully automatic.

NEW INTEREST IN BIODIGESTER TECHNOLOGY: Inland Empire Utilities Agency (IEUA) received 11.6 million dollars in grant for installing bio-digestors. The digestors will be used for the collection and processing of dairy manure to produce biogas for the generation of electricity. The system is much like the AgStar program that was promoted by USEPA/USDA during the early to mid 1990's. The successful operation of this digester will reduce odor, dust, and manure piles that have been a source of complaints from non-farming citizens.

A similar project is under construction by Portland General Electric, an Oregon utility company. The company is building a 100 KWH digester on a western Oregon dairy. Dairy manure will be digested to generate biogas (mostly methane) which will be used to generate electricity for about 12 homes. The cost of installing the digester, its operation, maintenance and management will be by the utility company. The utility plans to build more such digestors if this one proves to be cost effective. At this time of energy shortage, it is refreshing to see public and private entities cooperating to solve this important problem.

Agricultural Energy Conservation Grants: The California Energy Commission (CEC) has announced a new program that provides grants to agricultural power users for the purchase and installation of energy saving equipment. This new program was established under Senate Bill 5X, and makes \$75 million dollars available to reduce peak electricity demand. To apply one needs to complete a 5-page application form which can be downloaded from their web site (www.energy.ca.gov/ag) or may be obtained by calling (toll free) Fresno Center for Irrigation Technology at 866-297-3029. More details can also be obtained from the CEC web site.

California Energy Commission (CEC): Some of the purposes for which the CEC's grant may be used for are as follows:

1. The purchase and installation of high-efficiency electrical agricultural equipment or any facility installed to achieve peak period electricity reduction,

installed on or after January 1, 2001. Eligible equipments include, more efficient electrical equipment for lighting, refrigeration, heating and cooling, milling.

2. To conduct pump testing, retrofitting and repairs.
3. The purchase of advanced metering and telemetry equipment to improve electrical load management and responsiveness.
4. Offsetting the costs of retrofitting existing natural gas powered equipment to alternative fuels, including, but not limited to in-state produced “non-spec” natural gas.

BIOSECURITY REEMPHAZIZED: Some diseases can easily be transmitted by feed, water, air, rodents, birds, and people. Foot and Mouth Disease is one of the scariest diseases that has been in the news in the last three to six months. To minimize and/or eliminate chances of introducing serious diseases into your uninfected facilities veterinarians and government health officials recommend some of the following precautions. If you travel outside the US, avoid contact with animals or areas where animals have been held for at least **five days** before returning to the US. If you visited a farm while abroad, shower, shampoo, and change into clean clothing. Wash or dry clean all clothing before returning to the US to remove all dirt or organic material from shoes, luggage, personal items and so forth. Wipe items with disinfectants. A readily available disinfectant is **5 tablespoons of household bleach mixed in 1 gallon of water**. Another disinfectant is vinegar in water. Don't bring prohibited items or food products home. Avoid contact with livestock or wildlife for at least **five days** after returning home. **Post warning signs** asking visitors to stay out of buildings where animals are housed. Meet visitors away from production areas. Don't allow anyone on your farm who has been in a Foot and Mouth Disease-infected nation within one week. Visitors should disinfect shoes and boots or wear disposable boots and put on clean coveralls. They should remove coveralls and disinfect their shoes again before they leave.

Farm worker safety: Summers are very active periods of agricultural production. It is during these time that many farm related accidents occur. In 1998, One hundred forty thousand (140,000) workers suffered disabling injuries, and 780 people died due to farm accidents in the US (National Safety Board). All workers should be instructed on proper machine and equipment safety and should adhere to the manufacturer's directions. They should use appropriate protective gear (goggles, respirators, gloves, aprons, and hearing protection devices). Facilities owners should prevent falls (wet floors, remove items that can trip workers, store sharp items safely, etc.), monitor for any exposed electrical wires, and check the safety of chemical dispensors or storage containers.

Reduce heat stress during hot weather: During hot weather, feed intake, milk production, milkfat percentage, and conception rates are reduced. Milking cows prefer air temperatures between 41° and 77° F. Many dairies use misters and/or fans at feeding and holding areas to cool cows. Dairymen are encouraged to install these items if they don't already have them. Feeding cows at night, and just after milking also helps in combating heat stress.

The holding pen is one of the worst places where cows are heat stressed, because many of them are forced to congregate in a small area. The heat they radiate coupled with the ambient high summer temperatures exacerbate heat stress. Therefore, it is suggested that group sizes should be adjusted such that milking cows spend as short a time as possible in holding areas. It is suggested that sidewalls of holding pens be open at least 60 percent, fans be used to mechanically ventilate the holding area, and that sprinklers be used to increase evaporative cooling.

Some of the reasons for reduction in conception rates during hot weather are: cows show lower intensities and shorter duration of estrus, resulting in less mounting, more missed heats, and hence more anestrous. During this time, estrus synchronization with gonadotropic hormones is beneficial. Management practices that reduce heat stress (shades, misters, and fans) also improve reproductive performance.

Annual Milk production in high producing states and regions of the US. Following are two tables showing five year (1996 - 2000) milk production data in major milk producing states and regions of the US. These tables are included to help you compare your dairy's production with those of others in your area.

Table 1. MILK PRODUCTION (POUNDS) IN MAJOR MILK PRODUCING STATES (1996- 2000).

STATE	YEAR				
	1996	1997	1998	1999	2000
WA	19,996	20,968	21,476	22,409	22,409
AZ	20,446	20,976	20,458	21,873	21,705
CO	19,440	19,988	20,349	20,819	21,618
CA	20,267	19,829	19,475	20,777	21,169
NM	19,246	19,856	20,065	20,362	20,944
ID	18,496	19,092	19,743	20,292	20,816

Table 2. MILK PRODUCTION (POUNDS)/COW/YEAR BY REGIONS OF THE US.

	YEAR				
	1996	1997	1998	1999	2000
West	18,337	18,496	18,624	19,521	19,949
Midwest	15,679	16,128	16,687	16,977	17,426
Northeast	16,309	16,530	16,877	17,282	17,535
Southeast	13,828	14,210	14,119	14,521	14,857