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Dairy Herdsman Short Course **October 19-21 in Tulare**

Register early – it fills up quickly!!

The UCCE Dairy Herdsman Short Course will be held at the UC Veterinary Medicine Teaching and Research Center (also known as the VMTRC) in Tulare in October. This program is designed for working dairy employees. The purpose of the program is to provide the people who do the actual work on dairies an opportunity to receive information about the latest technologies and to offer training in all aspects of dairy management. A brochure with registration information and more details is included with this newsletter. The registration fee of \$175 is very reasonable and includes the 3-day training, a notebook with handouts, lunches, a shirt and other perks. Join the nearly 200 people from throughout the state who have benefited from attending previous short courses. Pre-registration is required and space is limited, so if you would like to improve the skills of your dairy employee, register today!

Advanced Dairy Herd Reproduction **Management**

October 22 in Tulare

A special one-day advanced program for herdsman who manage reproductive programs on dairies will be held following the Dairy Herdsman Short Course. This course is designed to provide a comprehensive review and update on the latest reproduction techniques and strategies for maintaining a high level of reproductive efficiency on dairies. It is NOT intended for herdsman at the entry or beginning level. A brochure with registration information and more details is included with this newsletter. Again, pre-registration is required

and space is limited, so register early if you want to take advantage of this opportunity.

West Nile Virus Arrives in **South Valley**

It was only a matter of time. West Nile Virus (WNV), a disease carried by mosquitoes that has been making its way westward across the country to California, was recently confirmed in Kings and Tulare counties. Mosquitoes become infected with WNV when they feed on infected birds. The disease is transmitted to humans and animals from the bite of an infected mosquito. The disease cannot be spread from person to person or animal to animal. Most people who are bitten by a mosquito with WNV will not get sick. A small percentage of people develop a flu-like illness that in rare cases can progress to serious neurological disease. Elderly people are at greatest risk for becoming ill. A brochure from the Kings Mosquito Abatement District with more detailed information is enclosed with this newsletter. In addition to public education services, the Mosquito Abatement District monitors mosquito populations, tests mosquitoes for WNV, conducts source reduction, and sprays for mosquitoes when required. They also raise mosquito fish for biological control of mosquito larvae in water troughs and back yard ponds. You can contact the District in Hanford at 584-3326.

Dairy producers can help reduce the risk for disease by eliminating mosquito breeding sites on the farm. Manure solids in dairy lagoons take up precious storage capacity, AND they also create conditions that are ideal for mosquitoes! Mosquitoes need still water for egg laying because larvae must keep their air tubes above the surface when breathing. Floating manure solids provide sheltered water

for mosquitoes and they restrict wind aeration. Weeds that grow on floating manure solids and around the sides of the lagoon only add to the problem by providing still water and by preventing pesticide sprays for mosquito control from reaching the pond surface. There is no perfect solids separation system, so all dairies deal with manure solids in the pond to some degree. The summer irrigation season is a good time to circulate fresh ditch or well water through the storage pond to stir up and flush out as much of the solid material as possible. This will reduce breeding sites and free up storage capacity in the pond, and also carry manure nutrients to forage crops that need them.

Managing irrigation water (with or without manure) is important, because standing water in fields can provide a breeding site for mosquitoes too. Try to manage irrigation application rates to match crop water needs, and implement a tail water return system to deal with excess water at the end of the field. Unfortunately, standing irrigation water may be due to uneven distribution of manure solids, so solving one problem in the pond can sometimes create another one in the field. Dairy manure management is a constant challenge. The need to be ever more vigilant to protect public health is underscored by the arrival of WNV. Call me if you have additional questions or concerns.

Local University of California

Cooperative Extension Dairy Activities

UCCE serves the dairy community with educational programs and problem solving research. Last month's newsletter described several local activities of UC dairy advisors, specialists and faculty. Following are highlights of several other projects that have been conducted locally. If you would like more detailed information about these or other studies conducted by UCCE, contact me by phone or email. You can also find information about these projects on the UCCE Kings or UCCE Tulare websites.

Epidemiology and antibiotic resistance of "environmental streps" isolated from bulk tank milk

-The purpose of this study was to determine the prevalence of *S. uberis* and *S. dysgalactiae* and other environmental bacteria that are potential mastitis pathogens in bulk tank milk. In addition to identifying the bacteria, we determined antibiotic sensitivity and resistance patterns. We wanted to determine associations between these bacteria, their resistance patterns and management or antibiotic use on the dairies. We learned that there are many bacteria in the "environmental strep" group and some may be very resistant to antibiotic treatment.

Prevalence of and risk factors for salmonella in water offered to weaned dairy calves

Controlling salmonella infection on commercial dairies is a big challenge. Salmonella are a common cause of human food-borne illness. Livestock are often reported to be associated with these cases of human illness. Despite extensive studies, the prevalence of salmonella contamination of water for weaned dairy calves has not been reported. The objective of this study was to determine the prevalence of salmonella contamination in water for weaned calves, and to identify environmental factors and management practices associated with an increased prevalence. Salmonella were found on 4 of 48 dairies sampled during the fall, and 8 of 37 dairies sampled during the summer for this study. Primary risk factors associated with the increased prevalence of salmonella in water offered to weaned dairy calves were a continuous water tank filling method compared to a shut-off valve system, and a water pH greater than 8.

Carol Collar

UCCE Farm Advisor -Dairy & Forages

Dairy air emissions science, technology and regulation

Dairies in the San Joaquin Valley submitted documents to the San Joaquin Valley Air Pollution Control District recently as required by new laws. Unfortunately, the new regulations were implemented before solid, science based information was available. Other requirements for dairies related to emission controls are being considered. Dairy producers are concerned about air quality just like other people who live and work in the valley, and they are willing to be a part of the solution. However, imposing costly requirements with questionable benefits is unwise and wasteful. Following are key points relating to this important issue.

- The San Joaquin air district's permit for dairies is based on the assumption that dairies produce large amounts of reactive gases that help form ozone (smog).
- The district reports that dairies contribute 10 % of the total amount of these precursors in the valley.
- In fact, these **ozone precursors from dairies have never been measured**. The current estimate is based on a well-documented error – a U.S. EPA technical manual published in 1980 included an analysis based on a misreading of source documents. Independent university scientists have confirmed this error, also widely reported in the press.
- Despite this and in addition to requiring permits, **the air district plans to require anaerobic digesters for manure** on new or expanding dairies – solely to control ozone precursors.
- Digesters only capture some emissions. A digester can't capture gas emissions directly from animals or from manure in corrals. The share of overall dairy emissions a digester could control is unknown.
- Until we know the overall emissions from a dairy, and the share of those a digester can control, we can't evaluate whether a digester can effectively control ozone precursors.
- Nearly \$2 million has been invested in ongoing studies of dairy emissions. Answers are expected within months. **A new law requires the state to review these studies and adopt a new emission factor by July 2005**. So why base regulations on an estimate known to be wrong?
- We must know if digesters are an effective control method before they are required. Digesters cost from \$500,000 to \$4 million to construct.
- We must also know digesters are reliable. There are only four digesters in operation among the state's 2,200 dairies. Nationwide, manure digesters have an average failure rate of 50 percent.
- Significant amounts of government funding helped build the four existing digesters. Programs that provided the funds will be unavailable for future projects because they have ended or are scheduled to end soon.
- The dairy industry supports digesters as a method for generating electricity. Wider adoption will occur as technology improves and issues are resolved, so **requiring digesters is not necessary**.
- Dairy producers are already taking many steps to improve air quality. San Joaquin Valley dairy farmers this year adopted special Conservation Management Practices to reduce dust emissions. Other standard practices are commonly employed to reduce odors and dust.
- Many dairy farmers use electric pumps to irrigate crops and to supply their milking facilities. The dairy industry and all of agriculture is actively working to convert more engines to cleaner burning fuels and electricity.
- Dairies help other farmers by providing an alternative to open-field burning of agricultural waste. For example, by-products such as almond hulls and rice straw are used for feed and bedding.

Science must come before regulation.

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