

# UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION



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## DAIRY NEWS

### **Dairy Industry and Biosecurity (Planning ahead)**

Alejandro R. Castillo

Dairy Farm Adviser, UCCE Merced & Stanislaus Counties

According to experts, dairies are exposed to biological risks on multiple fronts. Dairy farms have to be prepared for an accidental or a deliberate disease outbreak and/or food safety incident. Each property should be evaluated for possible risks, vulnerabilities, and weakness to intentional or unintentional diseases, toxins or chemical attacks.

A biosecurity program needs to be implemented in each dairy farm. This program should spell out the management practices needed: (a) to avoid, prevent, or minimize; and (b) to control or operate during a disease outbreak or a chemical attack. Un-authorized persons should be excluded from the operation. Every person visiting or working on the dairy need to know that you have a biosecurity program and that they are expected to follow it.

Involving your employees in the development and implementation of the biosecurity program is essential. Designate an employee who will be responsible in implementing biosecurity and food safety issues, and rotate this responsibility between the employees in different periods of time. Everyone on the farm needs to know what to do in the event of an incident.

Each farm is unique but, here are some steps that you should consider:

1. Reduce the number of entrances with fencing gates and locks.
2. Post visible signs restricting access to anyone not employed by the operation and include clear instructions for visitors.
3. Have a designated parking area for employees and visitors.
4. All visitors must be required to wear clean clothes, sign in and disclose their last known contact with animals.
5. Limit access to your animals, food storage and equipment.
6. Limit access to rendering trucks, by having the dead pile at the perimeter of your operation but avoid having the dead animals visible to the general public.
7. Have quarantine for newly introduced animals.
8. Improve lighting at night: milk house and parlor, feed bunks and equipment areas.
9. Secure and lock the bulk tank, animal drugs and chemicals.
10. Wells and water sources should be protected from intentional and accidental contamination.

All your plans should be checked with your Veterinarian. For more information you can contact the CDFA Emergency Programs in Sacramento (916-654-1447), Modesto (209-491-9350) or Tulare District (559-685-3500). More specific recommendations related to biosecurity and to animal health will be published in future newsletters. All these materials, including this newsletter will be written in Spanish.

## **La industria lechera y la bioseguridad (medidas de prevención)**

Alejandro R. Castillo

Asesor de Lechería, UCCE Merced & Stanislaus Counties

Los expertos indican que se pueden presentar 3 diferentes etapas cuando enfrentamos una crisis de bioseguridad: la etapa de pre-crisis, durante la crisis, y la pos-crisis. Las lecherías deben estar preparadas para enfrentar una epidemia o rebrote de una enfermedad, ya sea intencional o premeditado, y/o para un incidente de seguridad alimentaria. Es muy importante prevenir y evaluar cada lechería por posibles riesgos y debilidades en caso que se produzca una enfermedad intencional en los animales, o un ataque químico o con alguna sustancia toxica en la leche.

Un programa de bioseguridad debe ser planeado en cada lechería de California. Este debe contener las medidas y prácticas de manejo para: (a) evitar o minimizar; y (b) controlar una epidemia o rebrote de una enfermedad, o un ataque químico. Todas las personas (proveedores, inspectores, empleados, etc.) deben conocer y seguir el programa de seguridad que se implemente en cada lechería.

Una tarea fundamental es comprometer y enseñar a todos los empleados los problemas relacionados con la bioseguridad. Se recomienda designar un empleado como responsable de la bioseguridad, y rotar esta responsabilidad entre ellos en diferentes periodos de tiempo. Todos necesitamos estar preparados y saber como actuar ante un posible evento de bioterrorismo. Cada establecimiento lechero tiene características propias. Sin embargo, existen algunas recomendaciones generales que deben ser consideradas:

1. Controlar todas las posibles entradas al establecimiento, con cercas, barreras o vallas, carteles de advertencia y candados
2. Colocar carteles restringiendo el acceso a personas ajenas al establecimiento, incluyendo claras indicaciones a los visitantes sobre las reglas del establecimiento
3. Diseñar un área delimitada para el estacionamiento de vehículos de visitantes y empleados
4. Los visitantes deben vestir ropa limpia, firmar, e indicar su último contacto con ganado
5. Limitar el acceso con carteles a personas no autorizadas a áreas con animales, alimentos y equipos
6. Limitar el acceso a los camiones que colectan los animales muertos, poniendo estos en zonas perimetrales, y recordando prevenir el contacto (visual) de estos animales con el público en general
7. Hacer cuarentenas de animales nuevos provenientes de otros establecimientos
8. Mejorar la iluminación nocturna en áreas estratégicas: como sala de ordeño, tanque de almacenaje de leche, y cuartos con productos químicos y veterinarios
9. El tanque de la leche, los productos químicos y veterinarios deben estar cerrados con llave
10. Los pozos y el agua de bebida deben estar protegidos de una posible contaminación intencional

Recuerde que todos sus planes de bioseguridad deben ser discutidos con su Veterinario. Para mas información se recomienda consultar los Programas de Emergencias del Departamento Agricultura y Alimentación de California (CDFA) en Sacramento (916-654-1447), Modesto (209-491-9350), o Tulare (559-685-3500). Mas información específica sobre recomendaciones para pre-crisis y salud animal serán publicadas en próximos boletines informativos.

**Advances on environmental effects in dairy cattle**  
Alejandro R. Castillo  
Dairy Farm Adviser, UCCE Merced & Stanislaus Counties

Annual economical losses due to heat stress in US dairy industry have been estimated at \$900 millions. This is the beginning of a recent publication on environmental effects on dairy cattle (Collier et al., J. Dairy Sci. 2006[89]:1244). This review also includes an update of technical information on holding-pens, exit-lanes, and free-stalls cooling systems for dairy cattle.

The authors point out that improving productivity in dairy animals exposed to adverse environmental conditions during the last quarter century has focused on improving the environment around the animals and improving their nutritional management while applying selection pressure on improving yield rather than improving resistance to stressors; and this approach has dramatically increased productivity of dairy animals. Today, the impact of cooling systems and facilities on heat stress is based on a combination of different technologies like shades, sprinklers/misters, fans, and/or others evaporative cooling systems.

Shades for animals are considered essential to protect cows and to minimize losses in body weight gain, milk production, and reproductive efficiency. Regardless of climate, a mature cow requires 3.5 to 4.5 m<sup>2</sup> of space beneath the shade, and a north-south orientation to allow penetration of sunlight beneath the shade for drying the ground. It is estimated that total heat load could be reduce from 30 to 50% with a well-designed shade, and animals can yield 10% more milk. Although shades reduce heat accumulation from solar radiation, there is not effect on air temperature or relative humidity; thus, additional cooling is required for lactating cows in a hot, humid climate.

Early work conclude that using sprinklers in combination with supplemental airflow under shade housing was superior to a fan alone or sprinkling. Sprinklers and fans cooling systems generate a large volume of water that must be processed. Thus, attention to water delivery rate through nozzle size needs to be considered. The studies show that large droplets from a low pressure sprinkler system that completely wet the cow by soaking through the hair coat to the skin is more effective than misting system. But, a combination of fans and misters was as effective as fans and sprinklers at maintaining intake and milk yield; and the fan/sprinkler system used about 10-fold more water than did the fan/mist system. Studies showed milk yield increments of 0.7 kg/d in moderate temperatures and 2.6 kg/d in warm, humid conditions.

The evaporative cooling systems using high pressure, fine mist, and large volumes of air to evaporate moisture and cool the air surrounding the cows are very effective to improve the environment for lactating cows in arid environments. A high pressure mist system injected into low mounted fans stream (near the cow) can be very efficient and highly recommended. Researchers from Kansas State University indicated that with production increases of 5 to 10%, the payback for investing cooling equipment (sprinklers and fans) is 2 to 3 years; and one year or less when increases of milk yield approach 20%.

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**Up Coming Dairy Youth Sales**

**Merced County Replacement Dairy Heifer Sale**  
**Thursday, July 20, 2006 -4:00 p.m. Show – 7:30 p.m. Sale**  
**Merced County Fairgrounds – Nolet Arena**  
**Katie Luxon, Program Secretary**  
**Phone: 394-3715**

**Stanislaus County Dairy Heifer Replacement Sale**  
**Friday, August 4, 2006 – 7:00 p.m.**  
**Thurman Pavilion**  
**900 North Broadway, Turlock, California 95380**  
**Phone/Fax (209) 632-2557**