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Protecting our nation's milk supply

By Ellen R. Jordan, Ph.D.
Professor & Ext. Dairy Specialist
Texas A&M University

Since 9/11, everyone has become more aware of our nation's vulnerability. The U.S. food supply has traditionally been assumed to be very safe. But now, disease outbreaks in animals and people are seen as potential threats to national security.

Earlier this year, the nation's spinach market was devastated by an outbreak caused by *E. coli* O157:H7 that sickened people in at least 26 states, and fear continues that the highly pathogenic avian influenza (H5N1) virus could spread to the U.S. poultry industry. The dairy industry is just as susceptible to a devastating event. A disease outbreak in cows or contamination of the milk supply will affect the consumer's view of dairy products nationally and globally.

Dairy processors have taken steps to protect milk once it leaves the dairy. For example, seals have become mandatory on milk tankers, and plant security has increased. What provisions have you made on your dairy to protect your cows and milk against the next unknown threat?

There are three steps to protecting our food supply: prepare, prevent, and respond. To prepare, first determine the risks. Many disease risks can be prevented by implementing best management practices. Although by no means all-inclusive, take the time to review the following best management practices. Determine your dairy's weaknesses, and implement changes to protect both your herd's health and the nation's milk supply.

Limit dairy access

Start at your front gate and systematically evaluate each phase of your operation. On many dairies there is a scale and perhaps a sign that says "No weigh, no pay" at the front entrance. These dairies have identified the risk associated with accepting goods without verifying the accuracy of weigh slips. Far less frequently is there a sign to explain farm visitor policies or to direct visitors to check-in upon arrival.

Most dairies have fences around their cows, but how effective are they when it

There are three steps to protecting our food supply: prepare, prevent, and respond. Dairy producers are the first line of defense in protecting our nation's dairy herd from diseases that might impact the supply of dairy products.

comes to keeping intruders out? At a minimum, post remote gates with "No Trespassing" signs and keep them locked.

Take steps to minimize the herd's contact with wildlife. Keep brush near corrals mowed to reduce the habitat for snakes, rats, etc. Develop a control program for flies, mice, and birds. All of these are potential vectors to carry disease from animal-to-animal within the dairy, as well as potentially bringing in disease.

Control access for livestock haulers. Locate dead animals that must be removed so haulers don't drive through the entire dairy

to reach them. Build solid fences around the dead animal area to keep wildlife out so they can't spread disease through the dairy or to neighboring farms. Fences also limit the public view to protect the dairy's image.

Protect your bulk tank. Monitor cooling and cleaning to ensure milk quality. Consider installing a camera to monitor who accesses your bulk tank.

Protect the herd

Quarantine newly purchased animals and those returning home from shows or growers for at least two weeks. How long varies depending upon the risks identified. While in quarantine, test animals to determine their disease status. For example, test for persistently infected BVD animals to minimize the risk of exposing the herd to BVD, which could result in abortions in lactating cows. Work with your veterinarian to customize the testing protocol for your herd's protection.

Also, create a vaccination program for new arrivals so they can be integrated into the herd's general vaccination program. Insure that the new arrival vaccination program protects these animals against diseases already in the herd.

Use separate equipment for new arrivals to minimize the spread of disease to the rest of the herd. Clean and disinfect any equipment that must be used in both the isolation area and with the whole herd. If new arrivals are in enclosed barns, ventilate the quarantine area separately to prevent the spread of disease in aerosols.

Create isolation areas within the dairy for sick animals. Again, clean and disinfect any equipment that must be used in the

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hospital pen and throughout the dairy. Do not put fresh cows with the hospital pen. As a result of the stress of calving, fresh cows' immune systems are compromised and are susceptible to infection.

Evaluate fresh cow protocols to minimize the number of moves that cows go through in the transition period. If possible, change treatment protocols to therapies that keep fresh cows out of the hospital string.

Identify all animals on the dairy with some form of permanent identification, such as the traditional eartag or newer electronic ID. Keep health records on each animal that include vaccinations as well as illnesses and treatments. Record the success or failure of treatments and any unusual symptoms. Review vaccination and treatment protocols annually. Modify protocols when new risks are identified or treatment success is unsatisfactory.

Provide balanced rations that contain the necessary energy, protein, vitamins and minerals to promote efficient milk production and strong immune systems. Check feed for mycotoxins to protect cows and your milk. Store pesticides away from feed areas to prevent accidental contamination.

Managing calves

Evaluate newborn calf management. Protecting calves from disease starts with a healthy dam. Vaccinate her during the dry period to increase disease-specific antibodies in the colostrum. For example, if respiratory diseases have been a problem, vaccinate during the dry period for respiratory diseases.

Calve cows in a clean, dry, well-ventilated area. Remove the calf immediately to a clean area and dip its navel in iodine. Wash the cow's udder, collect the colostrum, and test it to determine quality. Feed 3 to 4 quarts of high quality colostrum as soon after birth as possible. Adequate colostrum consumption provides the calf with the antibodies needed to fight disease.

Routinely evaluate colostrum management by checking serum total protein in calves at two days of age. Serum total protein levels less than 5.0 g per 100 ml indicate colostrum antibody absorption is inadequate. Check colostrum quality, quantity and timing to determine where changes need to be made.

Keep calves segregated from older animals. If enclosed in a barn, try to ventilate the calf area separately from adult cows. Clean and disinfect equipment between calves. Develop a vaccination program to protect calves against diseases known to impact the herd. If BVD has been a problem, check for persistently infected calves. Cull positive calves immediately.

Locate calves so drainage from the adult animal area does not flow through the calf area. Organisms causing diseases, such as salmonella and Johne's, could be spread

from the adult herd to calves in water and manure going through the calf facility.

Vaccines and medications

Keep vaccinations and medications in a secured area. When not in use, lock the storage/refrigeration areas. Limit access to individuals that have received training on proper handling and storage. Whenever possible, translate instructions into employees' native language. Improved understanding of the directions can reduce the risk of improper use.

Store non-refrigerated vaccines and antibiotics out of sunlight in a climate-controlled environment. Although they may



not need refrigeration, they should not be subjected to excessive heat or freezing.

Monitor temperature in drug storage refrigerators at least monthly. Make sure the temperature remains in the ideal range of 36 to 46°F. Determine if there are any areas in the refrigerator that freeze, and either keep vaccines and medicines out of those areas or get a new refrigerator.

People and employees

People who work on dairies are frequently overlooked, but they can easily transmit diseases between animals. To reduce the spread of disease, consider assigning duties so that employees work only with the young stock or lactating herd or quarantined stock. At a minimum, train employees to clean and disinfect their boots, hands,

and equipment before moving from one group of animals to another.

In today's mobile society, employees and owners may travel extensively both in and out of the U.S. Be alert to disease outbreaks in countries that you or your employees visit. Develop policies regarding returning to work after foreign and domestic travel to protect your herd. At a minimum, insist that clothing be washed and footwear disinfected. Inform employees that you are trying to protect your livestock and their jobs.

Consider providing employees with boots and uniforms for use only on the dairy. Lead by example. Keep a pair of boots on the dairy that you only wear on the dairy.

Practice the same preventive strategies you require of your employees after visiting another dairy or traveling.

If employees have livestock at home, discuss steps you want them to take to prevent the spread of disease between home and work. Insist on them disinfecting their hands, feet and clothing, or even maintaining separate clothing.

Consider placing a small tub of disinfectant outside the entrance to your dairy so employees and visitors can disinfect their shoes. Also, keep a visitor or guest log

with name, address, and phone number of every visitor. If a disease outbreak ever occurs on your dairy, use this log to notify people of the risk so further spread of the disease can be minimized.

Respond promptly

Protecting our nation's milk supply requires producers to take steps to prevent disease. If, despite our preparations, abnormal health issues such as several unexplained deaths occurring nearly simultaneously, or a high percentage of the herd becoming sick with similar symptoms, take immediate action. The first 24 hours after a disease is first suspected are crucial to its containment. Prepare a list of first responders for your dairy in advance. Include on the list:

- herd veterinarian
- state Animal Health Commission
- USDA-APHIS

These individuals have been trained to respond to disease outbreaks. The sooner you notify them of suspicious health events, the quicker an outbreak can be contained, thereby reducing the overall impact on the nation's food supply.

Summary:

Dairy producers are the first line of defense in protecting our nation's dairy herd from diseases that might impact the supply of dairy products. Producers can prevent many diseases from ever occurring by identifying risks and implementing best management practices. The plan is only complete, however, when a response plan is defined **before** a disease outbreak occurs.

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For further information contact:

Dr. Ragan Adams, Editor
ILM, CSU-VTH
300 W. Drake Road
Fort Collins, CO 80523
970-297-0371
radams@lamar.colostate.edu

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