

HIGH-TECH **BIOTECH**

by Käte van der Walt



We know that there should be good biosecurity practices on poultry and pig farms, but we tend to forget the need for biosecurity on dairy farms. A dairy farmer must continuously identify and manage risk to run a good business that produces good-quality products. Biosecurity refers to management practices that reduce the chances of infectious diseases occurring and spreading on the farm.

7 THERE ARE **7** IMPORTANT POINTS PERTAINING TO BIOSECURITY RISK MANAGEMENT ON THE DAIRY FARM:

1 PREVENT DISEASE AGENTS, WEEDS AND PESTS FROM GETTING ONTO THE FARM

Keep show animals separate and give them proper vaccinations. After the show, handle them in the same way as new animals introduced to the farm. Keep animals apart for a few days and inspect them for any signs of disease or high temperature before introducing them to the herd. Milk these animals last until they have been proven disease-free. Raise replacement animals on the farm. Only purchase semen and embryos from reputable sources. Finally, limit contact with wildlife, vermin and feral animals as much as possible.



2 MANAGE AND PREVENT THE SPREAD OF DISEASE

Birds found around dairies may carry infectious diseases; therefore, seal off any openings to prevent them from nesting. Make sure domestic dogs and cats are vaccinated against rabies and other diseases commonly found in the area. Minimise their contact with dairy animals and the feeding area as they can spread disease. Make sure you have a preventative herd health programme in place, including a vaccination programme to prevent diseases that occur in the region from spreading to the farm. Milking time provides a good opportunity to observe animals for any signs of disease.



3 MONITOR FARM INPUTS

Buy feed from a reputable supplier who can provide full traceability of the raw materials. Make separate laneways for vehicles, such as feed and milk trucks, where cows don't walk. Ensure that these lanes are free from manure. Farming equipment is expensive. Therefore, where neighbours share equipment, make sure it is clean before bringing it onto the farm.



4 CONTROL FARM VISITS

People and vehicles may also introduce infectious disease to the farm as they move between different farms and areas. Therefore, farmers must have strategies to control farm visits. Each farm must provide a dedicated facility for farm contractors and visitors to clean their boots and equipment before they leave the farm. Gates must have clear signs giving instruction on whom to contact when entering the farm.

5 CONTAIN EFFLUENT AND WASTE

Disease can spread easily through contaminated effluent and waste material. Each farm must have an effluent management plan to prevent the spread of disease. Any potentially contaminated waste materials, such as bedding, used needles, syringes and dumped milk must be discarded in the correct manner. Farmers must ensure that the manure dam is not accessible to cattle or any livestock on the farm. Farms that have disease outbreaks cannot use effluent water for fertiliser, as this will only spread the disease over the entire farm.



6 PROTECT YOUR FARM

Erect a fence around the farm to prevent uncontrolled movement of livestock on the property. Do regular patrols along the fence to ensure that it is intact and replace damaged fence immediately. This will ensure that no animal can stray onto the farm.

7 SEGREGATE DEAD ANIMALS

Carcasses can be a hazardous to people and other animals. The first thing to do when any animal dies unexpectedly is to call the veterinarian to determine the cause of death. To minimise the spread of disease, close off a designated area on the farm where you can safely dispose of dead animals. This disposal area must be located where it does not cause any nuisance to neighbours and does not feed into any waterways or the environment.

ZOOONOSIS

Some diseases, called zoonotic diseases, can be transmitted from animals to humans and from humans to animals. There are various cattle diseases with zoonotic potential, some of which are more common than others. They include:

- anthrax
- brucellosis
- cryptosporidiosis
- dermatophilosis
- *Escherichia coli*
- giardiasis
- leptospirosis
- listeriosis
- pseudocowpox
- Q fever
- rabies
- ringworm
- salmonellosis
- tuberculosis
- vesicular stomatitis.

Farm workers walk and work all over the farm and should also be tested and vaccinated regularly. If one worker becomes infected with a zoonotic disease, it can quickly spread to animals and other farms. An infected person must stay at home and get well before returning to work and handling cows or other farm animals. If not, the whole herd and all farm workers may have to be vaccinated, which can be very expensive. Install washing bays

with hand soap in the dairy. Workers must wash their hands regularly before and after handling animals. The farmer has a responsibility to protect his or her herd and should ensure that all workers and visitors are aware of the role and importance of biosecurity on the dairy farm.

Keep a lookout for the following zoonotic diseases

- *E coli* are bacteria normally found in the intestines of people and animals. However, some strains can cause severe diarrhoea in humans. Animals are the carriers of these bacteria, and humans may become infected by ingesting contaminated food or water. Humans may also become infected after handling or being exposed to faeces of carrier animals, or via contaminated water in rivers or dams.
- Ringworm is a skin infection caused by fungi of the *Trichophyton* or *Microspora* species. Animals get ringworm from direct contact with an infected animal or from being in an infected environment, such as a barn. People become infected with ringworm through direct contact with infected animals.
- Bovine tuberculosis is caused by the bacterium *Mycobacterium bovis*, which is shed in respiratory secretions, faeces and milk of infected animals.



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