What is Biosecurity?

The potential for disease outbreaks within a rabbitry poses serious threats to animal health and longevity, and the economic viability of a rabbit farm. Because an incident of disease outbreak from just one animal could have adverse effects upon an entire herd, farmers should consider implementing a series of security measures known as biosecurity.

Biosecurity is a system of best management practices designed to reduce the introduction of disease. Biosecurity practices are an important aspect of farm and herd health management for operations of any size.

There are two biosecurity level practices among animal production systems:

- **Primary biosecurity** practices include preventative screening and measures for visitors, new or returning animals, and equipment or machinery.
- **Secondary biosecurity** practices include a working relationship with a veterinarian limiting contact with other animals, animal identification, an isolation area for sick animals, specific handling practices, and monitoring environmental conditions.

Potential Sources of Contamination

There are three general sources for health threats to a rabbitry: 1) Physical transference resulting from visitors; 2) Biological transference from new, sick, or contaminated rabbits being brought onto a farm; and 3) Mechanical transference resulting from equipment, supplies, or machinery being brought on to the farm from another farm or location. The best way to counter health threats is to implement a health management or biosecurity program.

Five key principles of a biosecurity program are:

**#1: Isolation**
- Make sure areas around a rabbitry are clean to discourage the habitation of other animals or insects that may present the threat of transference of disease.
- Maintain an isolation facility and equipment for newly acquired animals and sick animals. This practice allows you to assess the health status of new animals, and to evaluate and treat animals with health issues.

Animal producers are advised to implement biosecurity measures that are best suited for their operations.

Figure 1. It’s important to keep rabbitries clean to reduce risk of disease.
• Sanitize shoes and wash clothes after visiting another rabbitry.
• Make sure that dead animals are buried in a secure location to prevent other animals from accessing their carcasses.

#2: Traffic Control
• Keep your premise secure from unauthorized visitors. Whether innocent or intentional, visitors have the potential to harbor disease on or under their shoes, hands, clothing, or hair.
• Inspect and require authorized visitors to sanitize their footwear or wear protective footwear covers. This may require protective clothing and hair covering as well.
• Limit random traffic near animal facilities. You may want to establish sanitization methods for vehicle tires that have visited other rabbitries.
• Utilize sanitization methods for newly introduced or returning equipment and cages that may have come in contact with other rabbitries.

#3: Sanitation Maintenance
• Practice routine prevention maintenance and disinfection such as cleaning and disinfecting nest boxes in between litters, as well as cages, watering devices, and feeders following the removal of any rabbit for any reason.
• Take time to scrape off organic matter that remains attached to cages including burning off hair. Be sure to do this in a safe location removed from the rabbitry and any loose material.
• Sanitize the actual rabbitry structure as time allows.
• Wash hands, clothing, and head coverings after visiting a rabbitry.
• Sanitize the sole and outside of shoes, or wear protective footwear covers.
• Learn to utilize latex or rubber gloves when appropriate, such as when handling sick animals.
• For commercial operations, have a designated and remote location that allows you to sanitize empty rabbit transport cages prior to being set-up near your rabbitry. Ideally, cages are sanitized at several points throughout the pick-up and delivery process of marketing.
• Allow for proper drainage of urine and excessive water that may harbor diseases.
• Remove manure and other debris (hay and litter) that accumulates under the cages since they retain moisture and serve as a breeding ground for diseases, including eye or lung irritants.
• As a post clean-up measure, spread hydrated lime under the cages to reduce odor and to modify the pH balance of urine and manure so that it decomposes quicker.

#4: Handling Practices
• The approach of handling healthy animals first and sickly animals last minimizes exposure and transmission of disease from contaminated to healthy animals. The same approach should be utilized for different age groups of animals. For example, handle young animals first and then older animals. Adult animals are more likely to have developed immunities or tolerances to diseases.
that younger animals are more susceptible to.

#5: Observation
- Try to observe animals when they are healthy so that you will be able to quickly identify unusual behavior resulting from possible health issues.
- Become familiar with disease symptoms to insure a quick response, isolation, and treatment if rabbits become sick. Disease symptoms may include lethargic behavior, lack of appetite, diarrhea, nasal or eye discharge, gasping for air, and twisting of neck or head.

Potential Disease & Ailment Concerns

Here is a list of the most common ailments that occur among rabbits. Note: Rabbit owners are encouraged to consult a veterinarian for diagnosis and treatment.

- **Sores or cankers** inside or around the ears indicate the presence of ear mites that have established themselves within the ears of a rabbit. The rabbit will frequently shake its head and scratch at its ears. Treatment will be necessary over several days, but can be easily treated by rubbing a coating of mineral oil within the entire ear. The cage or general area may need to be dusted or sprayed with the appropriate treatment.
- **Coccidiosis** is a parasitic disease of the intestinal tract that results from rabbits excessively licking their dirty feet or coats, or by eating or drinking contaminated food and water. Maintaining clean cages, resting pads, and feed or water vessels are an ideal form of preventative maintenance. Symptoms can include diarrhea and rapid weight loss. If untreated, the infected animal will dehydrate and die. Young and elderly rabbits are most vulnerable. Temporarily reducing access to grain feed and increasing provision of hay is one home remedy. Another is the provision of pellets containing coccidiostats or the introduction of liquid coccidiostats into the water of the affected animal.
  - **Cold** symptoms include occasional sneezing and nasal discharge. Colds are usually not a serious threat to the animal, but isolation is necessary to eliminate exposure to other rabbits.
  - **Conjunctivitis** (Pinkeye) is an inflammation of the eye caused by bucks spraying urine, draughts, ammonia fumes, or a dusty atmosphere. An eye ointment available from a veterinarian can easily treat this disease.
  - **Heat stress** symptoms include rapid panting and the rabbit lying in a prostrate position that is caused by excessive temperatures and lack of air flow. Establishing a ceiling fan or a box type fan that moderately moves air across the cage and not directly on the rabbit is a good practice during summer months. For immediate results, try placing a plastic bottle with frozen water inside the cage. Allow the rabbit to lie next to the cold bottle to help lower its body temperature.
  - **Mastitis** is an inflammation of the milk glands that often results from injuries (scrapes or abrasions) to the teats. Symptoms include a swelling, warm feeling, and hardness of the teat or teats. A veterinarian can recommend the appropriate antibiotics.
  - **Mucoid enteritis** occurs when there is a change in a rabbit’s diet or it undergoes a stressful event. Symptoms include bloat- ing, scouring, and rapid weight loss. This disease is very painful to rabbits and may cause them to grind their teeth and exhibit other signs of pain. Extreme diarrhea
may also occur with a mucus-like consistency. Remove all pelleted feed for a few days and provide hay and abundance of water. After a few days pelleted food can be slowly reintroduced.

- **Paralysis** symptoms include lack of or limited movements of the hindquarters that is likely the result of an injury such as a rabbit excessively impacting the wall of its cage due to some type of external stress (predator animals), fighting with another rabbit, or being dropped. There is generally no treatment, and if paralysis continues for more than several days the animal may need to be euthanized.

- **Pasteurellosis** (snuffles) symptoms include a white discharge from the nose caused by excessive sneezing. Causes include excessive stress, poor ventilation, or excessive dust or ammonia vapors (from excessive accumulation of urine below cages) that irritate the trachea, sinuses, and lungs. Snuffles is a highly contagious disease and if untreated, may be incurable and even fatal.

- **Torticollis** (wryneck) symptoms include the head being tilted to one side, as the result of muscle spasms. Wryneck is caused by a widespread protozoal infection in the inner ear, nerves, brain, or a combination of sites. At this time there are no well-determined treatments. The animal may need to be terminated.

### Conclusion

Livestock managers are encouraged to implement the three Bs of biosecurity: *be observant, be proactive, and be diligent*. By establishing biosecurity measures and becoming more familiar with diseases that commonly afflict rabbits, rabbit owners will be able to prevent and to work more effectively with a licensed veterinarian to diagnose and to treat diseases.

### References

