

ANIMAL HEALTH & DISEASE MONITORING

BIOSECURITY TIP SHEET



The management practices you use on your farm/ranch contribute to the health of your animals. Good husbandry combined with good biosecurity helps animals thrive.

DISEASE MONITORING

Disease monitoring means watching animals for signs of illness or poor health, so they do not suffer or spread disease to others.

- Animal caretakers should check for signs of illness often. Signs include lower feed intake, weight loss, decreased activity, lameness, difficulty breathing, deep coughing, eye or nasal discharge, bloody diarrhea, depression, abortion.
- Set up an isolation area for sick animals. The area should be a separate location, away from the rest of the herd/flock with separate cleaning and feeding supplies. (See Isolation and Quarantine Tip Sheet) at cfsph.iastate.edu/biosecurity.
- Contact your veterinarian, extension or other animal health specialist with concerns.



Person looking at sheep for signs of illness.
Source: Andrew Kingsbury, Iowa State University

HOUSING

Animal housing should protect animals from the elements and ensure their comfort.

- Animal housing should protect your herd/flock from temperature extremes, snow, wind, rain, mud, and have good air flow. Housing with poor air flow can lead to buildup of odors or ammonia and cause breathing problems for animals and humans.
- Dry bedding decreases the amount of energy animals use to stay warm. Clean areas decrease the number of disease agents and parasites.
- Provide enough space for your animals to move around easily and avoid overcrowding.
- During chores, work from the healthiest and youngest animals first, then older animals, then sick animals last. This will help prevent the spread of disease to the most vulnerable animals in your herd – young animals.
- Have a holding (quarantine) area for new animals coming onto the farm. This also includes animals that are returning after being at shows, fairs, or out for breeding. The quarantine area keeps new or returning animals separated from the “home” herd/flock for a period of time so they can be closely watched for signs of disease. This helps protect both groups of animals.



A group of pigs on clean slatted floors in a barn that protects them from weather.
Source: Iowa State University Extension and Outreach

NUTRITION (FEED, WATER, VITAMINS, AND MINERALS)

Good nutrition is needed for proper body condition, to reproduce, produce milk or eggs, and develop a strong immune system to fight disease. A balanced diet is important for all animals. Work with someone trained in animal nutrition to create the best diet for your animals.

- Species, age, health needs, and season all determine nutrition needs. For example, animals need a diet with higher energy levels in winter compared to summer.
- Good body condition is the goal. Having enough protein in the diet is key to building muscles. Protein also plays a large role in building a strong immune system to fight off disease.
- Consider having your pasture analyzed to know the nutrient value of the forages. Look for and remove poisonous or harmful plants.
- Feeding areas should be designed to allow easy access for the animal to eat and for the caretaker to clean.
- Fresh water should always be available and easy for animals to access. Water should be tested yearly for mineral and hardness levels.
- Make sure animals have the right vitamins and minerals to meet their needs.



Person pouring feed into a clean wooden feed bunk for a herd of cattle.
Source: Hope Dohlman, Iowa State University

VACCINES, DRUGS AND TREATMENTS

Vaccinations can help prevent common diseases. If animals get sick, drugs can help them recover. Your veterinarian can help set up a disease prevention plan for your herd/flock.

- Follow label directions for giving and storing vaccines and drugs. All food animals should be injected according to their species-specific Quality Assurance Programs (Beef, Pork, Sheep).
- Follow drug label directions for meat, milk, and egg withdrawal times.
- Check expiration dates. Circle or mark the expiration date on bottles and packages as a reminder.
- Store vaccines and drugs at the correct temperature. Refrigerated items should be kept between 36-46°F. Keep a thermometer in your refrigerator to allow for easy checking.
- Items stored at room temperature should be thrown away if the temperature becomes too hot or too cold. Read the product label for temperature information.
- Other health activities such as hoof trimming, castration and dehorning can be planned into the herd/flock health schedule as part of routine animal care.



A cooler with vaccine bottles, a clean metal syringe hub with a new needle, and a pair of gloves.
Source: Renee Dewell, Iowa State University

PARASITE CONTROL

Parasites (such as intestinal worms, or external parasites found on skin or hair) slow animal growth and reduce their ability to fight off other diseases.

- Different animal species have different parasite concerns and require different treatments. Work with a veterinarian to develop a plan that is best and safest for your animals.
- Reduce parasites in the environment by using feed containers instead of ground-feeding.
- Keep stalls clean to reduce manure buildup. Many parasites are shed in feces. Rotate pastures used for grazing to prevent manure and parasite buildup in soil. Put younger animals on cleaner pastures (e.g., those not grazed by older animals).
- Test fecal samples to see how well the deworming program is working.



Person operating a skid loader scraping manure away from food sources to clean the lot.
Source: Hope Dohlman, Iowa State University

PREVENT STRESS IN YOUR HERD/FLOCK

Extreme temperatures, new housing, stressful handling, and transportation are common causes of stress in livestock and poultry. Negative effects of stress include changes in the immune system and decreased feed intake, which can increase the chance of disease.

- Offer extra water and shade during times of high heat. Move animals in the early morning to minimize heat stress. Ensure good air movement for indoor raised animals.
- During extreme cold, water needs to be free of ice. Water heating devices may be necessary. Temporary wind breaks may be needed for protection in winter. Wind breaks should be removed during the summer to allow for better air flow. Make sure heaters work well and safely for indoor raised animals.
- First experiences with corrals, chutes, and equipment should be quiet and controlled to prevent fearful memories. Make practice runs to allow animals to adjust to their surroundings. Work quietly, slowly, and use the animals' flight zone to calmly move them.
- Animal caretakers should follow good animal handling practices which consider the natural behavior of the animal and include patience, proper use of animal handling and restraint devices, safe handling of aggressive or easily excited animals, moving animals in a calm, quiet manner.
- If possible, vary the people and vehicles used when observing and working with young animals. This helps them get used to a variety of situations and people.
- Do not use dogs to work animals in tightly confined areas. Dogs that chase and nip at livestock induce stress.
- Drivers should follow good handling practices during transport and avoid fast starts, stops, or turns. Slow, steady movements are best. Consider the time of day and number of animals being moved to avoid temperature extremes and over-crowding.
- Try to keep animals calm before and during breeding. Poor handling before artificial insemination can lower conception rates.



A group of cattle are walking slowly onto a livestock trailer for transport.
Source: Renee Dewell, Iowa State University

ASSESSMENT CHECKLIST

Use the following checklist to determine areas where you are doing well and others that need to improve.

YES	NO	After answering, pick one or two "No" answers and make an improvement plan with the resources below.
		Do your animals have a clean, dry place to rest?
		Do animal caretakers check animals often for signs of disease?
		Do you have a separate area to isolate sick animals?
		Do animal caretakers work with the healthiest and youngest animals first, then older animals, then sick animals last?
		Do you feed your animals based on their age, growth, and health needs?
		Do you have a vaccination program for all species on your operation?
		Do you check your medicine refrigerator to make sure it is at the proper temperature (36-46°F)?
		Do you have a parasite prevention program?

MORE RESOURCES:

[A Guide to Animal Husbandry and Nutrition](#)

[Guide to Good Farming Practices](#)

[Housing and Space Guidelines for Livestock](#)

[Reduce Stress of Handling to Improve Productivity of Livestock \(Temple Grandin\)](#)

ACKNOWLEDGMENTS

Development of this material was made possible through grants provided to the Center for Food Security and Public Health at Iowa State University, College of Veterinary Medicine from the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service through the National Animal Disease Preparedness and Response Program (NADPRP) and National Institute of Food and Agriculture, under award number AWD-021794-00001 through the North Central Region SARE program under project number ENC19-176. USDA is an equal opportunity employer and service provider. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the USDA. Iowa State University is an equal opportunity provider. For the full non-discrimination statement or accommodation inquiries, go to extension.iastate.edu/diversity/ext.

