

RURAL

Safety and Health

ANIMAL HANDLING SAFETY

by Darcy M. Demmin and Eric Hallman

Cornell Agricultural Health & Safety Program

<http://www.diaglab.vet.cornell.edu/aghealth/>



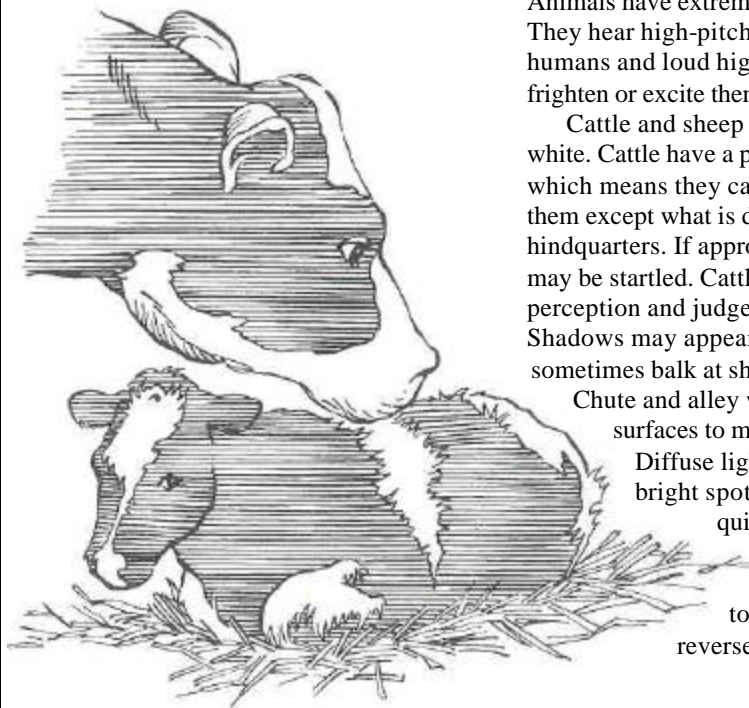
THIS FACT SHEET COVERS

Animal characteristics

Hazards and precautions

Safe facilities

Animals are handled daily on nearly half of New York farms. In the Northeast, animal handling mishaps rank second in reported farm accidents. Every year at least one New York farmer dies as a direct result of a confrontation with a farm animal. An understanding of animal behavior is essential to preventing these accidents. Handlers must be aware of how animals react to different situations and know how to avoid or control potentially dangerous predicaments.



Animal Characteristics

Smell, Hearing, Sight

Most livestock rely heavily on their senses of smell, hearing, and to a lesser extent, sight.

The sense of smell is particularly important to animals, and they will often react to odors that people cannot detect. Cattle may be lured by the smell of freshly mown hay, or a bull may become aggressive if he detects a cow in heat. Odors can trigger defensive reactions in livestock, especially females with newborns.

Animals have extremely sensitive hearing. They hear high-pitched sounds better than humans and loud high-pitched noises often frighten or excite them.

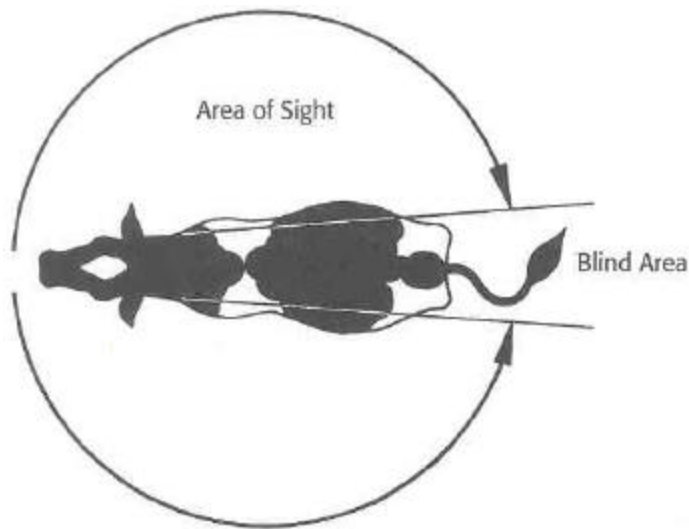
Cattle and sheep see objects in black and white. Cattle have a panoramic field of vision, which means they can see everything around them except what is directly behind their hindquarters. If approached from the rear, they may be startled. Cattle have limited depth perception and judge distance poorly.

Shadows may appear as holes, so they sometimes balk at sharp contrasts in light.

Chute and alley walls should have flat surfaces to minimize this reaction.

Diffuse lighting, which reduces bright spots and shadows, helps quiet animals. Livestock

move more comfortably from dark to light areas than the reverse.



Behavior

People who regularly work with livestock realize that each animal has its own personality, however, certain animal behaviors are predictable.

- Most animals respond to calm, gentle, and consistent handling.
- Livestock become uneasy or skittish when their ordinary routines or familiar surroundings change.
- Animals have a definite social order. Dominant animals have first choice of feed, location, and direction of travel. Crowding a subordinate animal against a dominant one during handling may disrupt their social structure and cause an unpredictable and dangerous response.
- Domestic livestock, especially cattle and sheep, are herd animals. They may become agitated or stressed when isolated and will try to return to the group.
- Livestock detect people by their movement, which is much more important to animals than what is moving, or the location, color, or identity of the moving object. A handler's excited or aggressive movements may cause animals to stop and watch the activity rather than respond to the handling. Therefore, it is important to move calmly and steadily when handling animals.

An animal's gender and breed also affect its behavior. Because of their weight, strength, and inconsistent temperament, bulls, in particular, require extra caution and consideration. Even a bull's playful activity can easily injure or kill a person. Bulls require

special facilities that allow them to feed, drink, exercise, and breed without direct contact with handlers. Females can be as dangerous as bulls when their young are threatened.

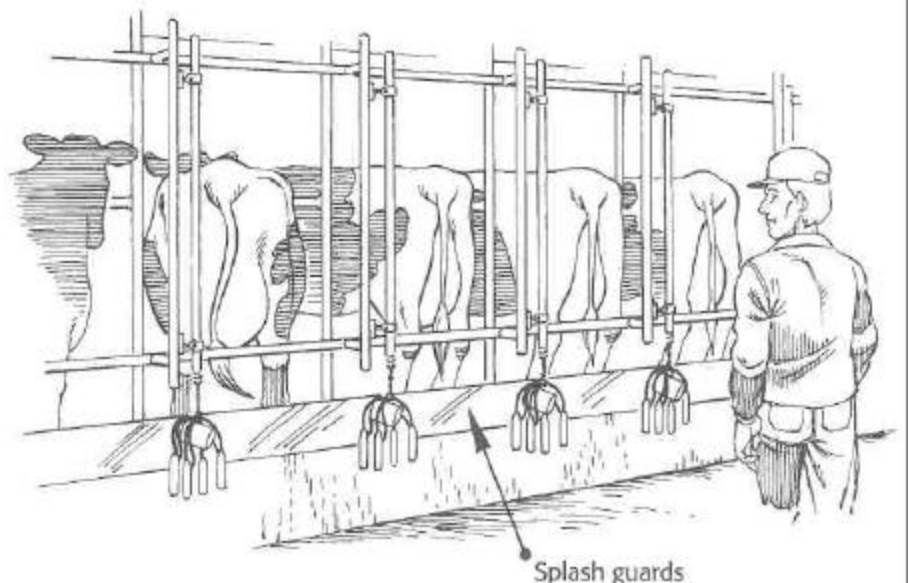
Hazards and Precautions

Physical Injuries

There are four common types of animal handling injuries:

- Animal steps on handler
- Animal slips and falls on handler
- Animal pins or squeezes handler against a barrier
- Animal kicks handler

By employing practical experience and adhering to a few general rules, handlers can prevent most accidents and injuries.



- Move calmly, deliberately, and patiently. Avoid quick movements or loud noises that may startle animals.
- Do not alter the daily routine or the animals' living conditions. Animals often balk at anything out of the ordinary.
- Always leave an escape route when working in close quarters with animals.
- Avoid startling an animal. Make it aware of your approach before getting too close to it.

Transmittable Diseases

All animals, domesticated or wild, can be sources of human illness and parasitic infection. Diseases that can be transmitted from animals to humans are known as zoonoses. Infections may result from direct or indirect contact with diseased animals, their manure, their urine, and their bedding, or through animal products (milk, meat, hides, hair).

Infection may take the form of intestinal diseases, respiratory disorders, general ill health, or skin rashes. Table I lists the most common transmittable diseases.

Personal Protective Equipment

Handlers can protect themselves from injury by wearing appropriate safety equipment, which is simple to use and reasonably priced.

Foot injuries are common when handling any type of livestock. Sturdy steel-toed shoes will protect feet if they are stepped on. Boots should have non-skid soles to prevent falls when working in slick areas.

Table 1.
Transmittable Diseases and Their Prevention

<i>Disease</i>	<i>Route of Transmission</i>	<i>Symptoms in Humans</i>	<i>Safeguards (Prevention)</i>
Rabies	Transmitted by the saliva of infected animal through a bite, open wound, or sore.	This disease attacks the central nervous system. Symptoms include headache, irritability, fever, and excess salivation. As the disease progresses, other symptoms include spastic skeletal muscle contractions, convulsions, respiratory failure, and eventual death.	Refrain from handling small animals around the farm, unless they are immunized. Wear gloves when feeding calves and when treating sick animals.
Brucellosis (<i>Bang's Disease</i>)	Transmitted to humans in raw (unprocessed) milk, aborted fetuses or afterbirth from an infected animal, or from an infected carcass at time of slaughter.	The acute stage mimics influenza (high fever, chills, body aches), fatigue, night sweats, Headaches and occasionally diarrhea, weight loss, and irritability.	Good sanitation reduces the chance that the herd will be infected.
Q Fever	Inhaled from surroundings contaminated by animals that excrete the organism with uterine discharges and placentas.	Acute fever, headache, and weakness following an incubation period of 2-4 weeks. Productive cough (phlegm) and chest pain is common.	High risk livestock should be vaccinated. Good sanitation reduces the possibility of contracting this disease.
Leptospirosis	Transmitted to humans from contact with animal urine.	Chills, fever, body aches, nausea, vomiting, jaundice, skin rash, stiff neck, and muscle tenderness commonly found in lower legs, thighs, and lumbar areas.	Milking parlors should have splash guards in place to prevent contact.
Ringworm	Transmitted by direct contact with infected animal.	Ringworm is a fungal infection. It is characterized by raised, reddened areas that form small, round circles.	Proper sanitation after handling helps to prevent this disease.
Salmonellosis	Transmitted through contaminated feed or water from wild or domestic animals and poultry.	Severe gastrointestinal distress (nausea, vomiting, diarrhea, and abdominal pain) and fever.	Good sanitation and proper storage, handling, and cooking of animal-derived foods will reduce the risk of poisoning.
Trichinosis	Transmitted by consumption of uncooked or partially cooked pork.	This parasite can be painful and sometimes fatal to humans. Gastrointestinal disorder (nausea, vomiting, diarrhea, and abdominal pain) are early symptoms. As the disease progresses, it migrates into the muscle tissue and causes muscular weakness.	Always thoroughly cook pork to prevent this disease.
Lyme Disease	Transmission normally occurs through the bite of a deer tick.	Symptoms usually develop within 2-30 days of the tick bite. A small red bump may appear near the bite and enlarge into a spreading red ring. This is followed by general illness including fever, chills, headache, and backache. Palpitations, dizziness, and shortness of breath may also occur. Untreated cases may advance into rheumatoid, arthritic, or cardiac problems.	Exposed skin should be protected. Pants should be tucked into socks. Examine skin carefully after possible exposure. Antibiotics can be successful during the early stages of this disease.

To protect against contracting or transmitting diseases through skin contact, handlers should wear disposable rubber latex gloves when treating sick animals or assisting with births.

A dust mask, preferably one carrying the NIOSH approval #TC-21C prefix, should be worn when working in dusty conditions. Repeated and prolonged

exposure to agricultural dusts can cause short-term reactions and lead to respiratory diseases such as "farmer's lung."

Safe Livestock Facilities

Badly designed facilities or those in poor repair are responsible for many injuries to humans and animals. Proper

planning should precede construction or renovation of livestock facilities. Key considerations include ventilation, traction, proper access for animals and people, and escape routes for handlers.

Ventilation is extremely important for the health and safety of workers and livestock. Inadequate ventilation can cause dangerous buildups of toxic

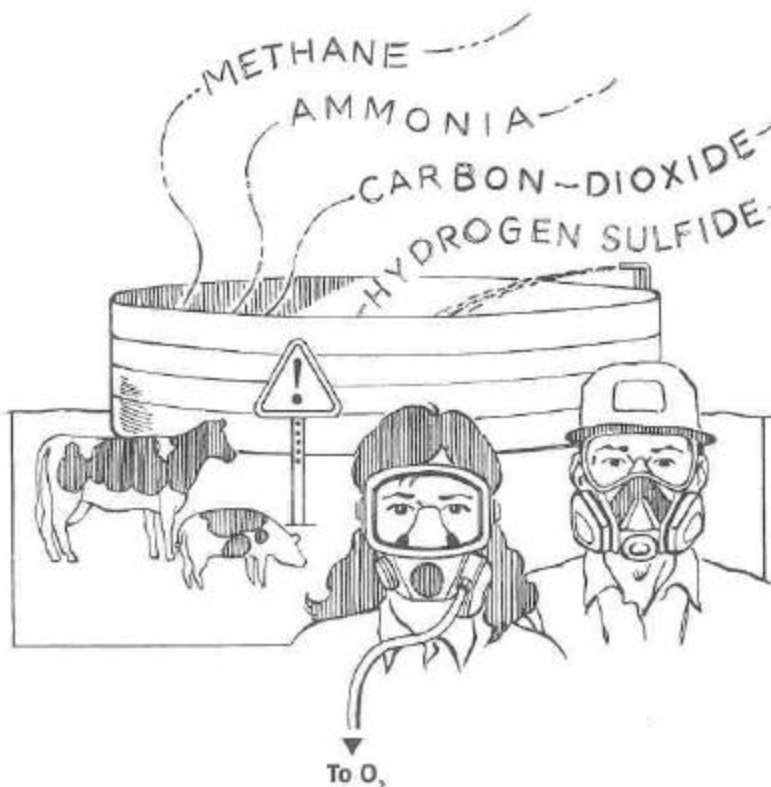


gases, including ammonia, carbon dioxide, hydrogen sulfide, and methane. The following precautions are recommended:

- Do not allow workers near the manure pit during agitation.
- If possible, remove livestock from nearby buildings during manure agitation.
- Ensure that adequate ventilation is provided in both the pit and the building during agitation.
- Install a warning system that signals a ventilation failure to alert workers to the possible accumulation of toxic gases.

Other recommendations to make livestock facilities safer include the following:

- Keep floors clutter free to prevent trips and falls. High traffic areas should be roughened or grooved. Sloping floors promote adequate drainage.
- Make fences and gates strong enough to withstand crowded conditions. Livestock areas should be free of sharp projections such as broken boards, nails, or wire.
- Be sure that solid-walled chutes and alleys are wide enough to allow animals to pass, but not wide enough to let them turn around.
- Provide diffuse interior lighting to reduce bright spots and shadows.
- Use restraining equipment that is designed to minimize animal movement and injuries.
- Incorporate escape routes and safety passes into livestock facilities so that workers can quickly exit when the need arises.



Summary

Some farm animals can behave dangerously or create hazardous situations when they are improperly handled. Understanding animal behavior is one important step toward avoiding accidents. To further reduce the possibility of illness or injury to animal handlers, use correct handling procedures, proper sanitation, personal protective equipment, and make sure that livestock facilities are properly designed and repaired.

OTHER RURAL HEALTH AND SAFETY FACT SHEETS INCLUDE:

Lightning Protection for Farms

Electrical Safety on the Farm

Power Take-Off Safety

Safe Farm Environments for Children

Slow Moving Vehicle Emblems



**Cornell
Cooperative
Extension**

*Helping You
Put Knowledge
to Work*

This publication is issued to further Cooperative Extension work mandated by acts of Congress of May 8 and June 30, 1914. It was produced with the cooperation of the U.S. Department of Agriculture; Cornell Cooperative Extension; the New York State College of Agriculture and Life Sciences, New York State College of Human Ecology, and New York State College of Veterinary Medicine, at Cornell University.

Designer: Dennis F. Kulis

Editor: David A. Poland

Illustrations by Jim Houghton

For additional information: call 1-877-257-9777
Cornell Agricultural Health & Safety Program