

# Livestock Care for Beginning and Small-Scale Producers

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### Introduction

OVER THE COURSE OF HISTORY, animals have provided many benefits to humans. From transportation to protection or as a source of food, fiber, fertilizer, and companionship, human and animal interactions have occurred in all civilizations throughout history. Therefore, it is not surprising that the integration of animals, particularly livestock, into lifestyle and business enterprises continues today.

The intentional cultivation and care of domesticated livestock is called *animal husbandry*. It involves the application of controlled management and production practices, an approach that allows animals to be bred for "utility (e.g., food, fur), sport, pleasure and research" (Curley 2014).

As with most things, getting started in livestock care and ownership comes with a steep learning curve. The following principles provide a solid foundation for success.

### Principle #1: Develop and practice the skill of observation.

A powerful skill to practice in the ownership and care of livestock is observation. Much like humans, animal behavior will often provide clues about unmet needs. Spending time each day watching and interacting with your animals will not only help you to understand them but also help them to understand you. Creating a trusting environment and positive relationship reduces stress for both animal and owner.

Things to observe include how your animals walk, eat, drink, and interact with other animals and people. Paying attention to their access, quality and quantity of water and feed, facility safety and cleanliness, and the presence of pests or toxic plants in the environment is also important (see principles 2 and 4 and "Resources for Additional Learning" for more details).

Despite how simple this approach may sound, watching animal behavior improves animal care. Indeed, by small means great things can be accomplished. The results of observation include the following:

- 1. An ability to notice small changes. Opening a hay bale or bag of feed every day betters your ability to notice when product qualities (like color, smell, or condition) have changed. By the same rationale, watching animal behavior every day helps attune you more sharply to how the livestock chew/eat their feed or how their ears hang or how clean or dirty they are. Any changes in those conditions may be a clue indicating that you, as the animals' caretaker, need to act.
- 2. The development of a faster response time. Observing changes in animal behavior and living conditions on a regular basis enables you to attend to problematic situations much more quickly. A great example is water quality, quantity, and access. Checking the water every day sounds like a time-intensive chore, especially if you trust your water system or those assigned to the task. However, limited water intake is not healthy for animals. Power outages that alter the performance and efficiency of water pumps; drought; unexpected damage to water tanks/ containers from people or animals; wildlife interaction; or even curious animal behavior impact water access. Catching an issue early lessens its impact on your animals and thus your pocketbook.
- 3. Improved emotional wellness. Research suggests that caring for animals provides more than just life subsistence for the animal but also emotionally benefits both animal and human. Spending time in the company of pets and livestock has been proven to lower stress, heart rate, and anxiety. Watching animal behavior is also entertaining and provides an opportunity to unplug from technology and connect with nature.

### Principle #2: Know the signs of a healthy animal.

Understanding normal behavior transforms the simple task of watching animals interact into a powerful diagnostic tool. Focus on the animals' movement, eating and drinking, breathing, elimination of waste, and body condition (Table 1).

In general, abnormal behavior can be an indicator of illness, disease, exposure to toxic plants in the environment, or injury, all of which can be expensive and cause loss of productivity or an animal's life. Healthy animals grow and thrive, providing adequate production of milk, meat, eggs, offspring, fiber, etc. When animals are unhealthy, they have trouble reproducing and experience a decline in overall production and quality of life.

# Principle #3: Prevent illness and disease.

An overarching principle of importance in preventing illness and disease is *biosecurity*. According to the United States Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS 2021), "biosecurity refers to everything that's done to keep diseases and the pathogens that carry them—viruses, bacteria, funguses, parasites and other microorganisms away from [animals], property, and people." Being conscious of biosecurity is an intentional process. It includes things like

- washing hands before and after handling animals;
- wearing proper personal protective equipment when administering vaccines or pesticides;
- properly cleaning and sanitizing tools, equipment, and facilities before and after handling or working with animals;
- having an isolation area to separate sick animals from healthy animals;
- isolating new animals from existing animals for a minimum of fourteen days to monitor for signs of disease or illness;
- educating visitors about cleanliness protocols on your property and possibly limiting visitors in livestock areas;
- wearing clean clothes and shoes when entering livestock areas, particularly after visiting other livestock areas off farm;
- taking proper care of livestock waste to prevent contamination of water and feed sources; and
- establishing traffic patterns on your property so that microorganisms from unhealthy environments are not tracked by humans, animals, or equipment to areas where healthy animals are located.

#### **Table 1.** Indicators of normal and abnormal animal behavior.

Behavior	Where and when to observe	Normal behavior	Abnormal Behavior
Movement and general demeanor	When animals are coming up to eat or drink and/or moving/ resting freely in their living space (with or without pressure from outside sources)	Unrestricted limb movement Even gait Eyes bright and alert Ears up and alert Head up Active and responsive movement Social with other animals Clean and healthy hair, coat, or feathers Absence of pests on skin or hair	Excessive laying down or rolling Limping, wobbly or unsteady gait Eyes dull Ears drooping Head or body slumped Slow and unresponsive movement Self-isolating or little if any interest in interacting with other animals Dull hair, coat, or feathers Lice, fleas, or mites present on body
Eating and drinking	While feeding animals at consistent times and in regular intervals, depending on species (water access should be consistent and constant)	Hunger and thirst (having a desire to eat and drink) Regular intake	Lack of desire to eat or drink Sunken sides (may indicate dehydration or malnutrition
Breathing	At any time, place, or animal activity level	Steady Unrestricted Moist nose No nasal discharge	Labored or heavy, even at rest Coughing Dry nose Excessive discharge that may be thick or discolored
Elimination of waste	During all stages of life Note: Animals often eliminate after eating or when standing right after resting	Clean bodies Regular elimination of waste Note: "Normal" consistency is different for every species; while for some normal means hard and pelleted (sheep, rabbits), for others it means soft and loose (cattle). Observing changes in waste is particularly important.	Excessive odor Dramatic changes in color or consistency Accumulation of waste on the body Irregular elimination (constipation or diarrhea)
Body condition (amount of fat and muscle)	At different life stages to gauge appropriate feeding amounts and management practices (see Additional Resources for species-specific information)	Fat and muscle covering skeletal structure	Excessively bony body or one with minimal fat and muscle Excessively fat

In addition to utilizing biosecurity practices to prevent illness and disease, livestock also benefit from proper nutrition; dental, foot, and/or horn care; parasite control; and vaccination protocols. In general, proper nutrition related to animal age and life stage (young versus old, not pregnant versus pregnant or nursing, etc.) impacts an animal's immune system, bodily functions, and thus its ability to fight off a potential illness or disease. If an animal suffers dental or foot problems, they likely can't forage as well or at all for needed nutrients. Horns grow throughout an animal's lifespan and may result in injury to humans, other animals, or themselves. Regular filing or trimming may be required, depending on the species, for teeth, hooves, and horns. Parasites of different types affect all animal species and control is often speciesspecific. Understanding which parasites impact the livestock you raise will guide decisions on management practices. Lastly, vaccination protocols to prevent disease are also species-specific. Your local veterinarian can assist you with developing a vaccine and parasite control plan for your animals.

#### Principle #4: Prevent injury.

If an animal gets injured, the potential for infection or loss of life greatly increases. Injury can happen quickly and unexpectedly. It can be a result of animal-to-human interaction, animal-to-animal interaction, or animal-to-environment interaction.

Practicing low-stress animal handling can lessen the potential for animal-to-human and animal-toanimal injury. Temple Grandin (1989/2018), worldrenowned animal behavior researcher and expert, explains that "reducing stress . . . should [also] help improve weight gain, reproductive performance and animal health [plus]... animals which have been handled gently will be less stressed by handling in the future." Factors impacting animal behavior include vision (such as depth, color, and blind-spot perception) and fight or flight responses. Indeed, all animals have an invisible area around them known as a "flight zone" that they instinctively maintain. When pressure is applied too drastically (such as a human or animal approaching too quickly), the confronted animal naturally desires to move away. If pressure is applied slowly and intentionally, animal caretakers can successfully guide their animals in the desired direction (an approach known as low-stress movement). This tactic is helpful when preparing to handle livestock in chutes or other facilities and preparing to transport them (via herding them to different pasture areas or loading them into trailers).

Animal-to-environment injury is another category. It often occurs because of a building's design. Grandin (1989) notes that "poor design . . . increase[s] stress," which is related back to the way livestock see light and movement around them in the environment. She advises to handle livestock "gently with a minimum of noise. To avoid agitation the handler should work on the edge of the flight zone. . . . All areas where animals are crowded[,] such as chutes and crowd pens, should have solid sides and diffuse lighting with a minimum of shadows." This injury type can also occur because of untidy livestock housing areas. Evaluate your animal housing areas for loose or exposed nails, boards, or wires, as well as uncontained hay strings or bits of metal, wood, or plastic. Animals are naturally curious. They might accidentally ingest these materials. Eliminating these potentially dangerous environmental objects will prevent them from causing damage to livestock and property.

# Principle #5: Seek help from reputable resources.

There are many things to learn when owning and caring for livestock. Gaining knowledge and experience is another solid way to safeguard your animal's health and to avoid incurring extra livestock-care expenses.

The following sources provide a variety of helpful information for lifelong livestock owners:

- 1. *Veterinarians*. Establish a relationship with a local veterinarian. They will be able to assist you with vaccination protocols as well as diagnosing health issues that come up along the way.
- 2. Extension educators and researchers. The University Extension system is a nationwide network of educators tasked with providing research-based information to the local areas of any given state. In Idaho, each county and tribal community has access to this resource. Countybased educators and researchers host short classes or long courses to teach topics of all kinds. There are also many online publications and resources available. To connect with your local University of Idaho Extension office, visit <u>https://</u> www.uidaho.edu/extension/directory/counties.
- 3. *Informed online searches*. Deciphering what information is helpful and what is not can be overwhelming, especially when you're just starting out. There are hundreds of social media groups you can join and lots of "experts" eager to share information. One way to sift through all of

this is to seek information from websites that are likely to have little bias. To do this while using an internet search engine, simply add "site:.edu", "site:.gov", or "site:.org" to the end of your search and the results that appear will only include sites that have that ending (or suffix) in the web address. This is good because the ".edu" ending identifies educational institutions (including University Extension programs nationwide), ".gov" shows only federal government agencies, and the ".org" ending indicates organizations (structured entities, usually professional) like nonprofits. For example, to search for information about poultry nutrition on university sites you would type "poultry nutrition site:.edu" into a search engine of your choice and the results would all be from university sources (which are most likely unbiased and research-based).

4. Other livestock owners. In the day-to-day discovery of experiencing what is normal or abnormal, it is helpful to have mentors or friends in similar situations to ask for help, particularly if they happen to have more experience. Pairing assistance from experienced mentors with information gathered from other nonbiased and reputable sources like those listed above will improve your decision making.

#### **Summary**

Owning and caring for livestock comes with responsibility, opportunity, expense, enjoyment, loss, and a myriad of other emotions and experiences. Beginning livestock owners can experience success and longevity in owning and caring for livestock by establishing practices of observation; understanding normal and abnormal behavior; preventing illness, disease, and injury; and seeking quality learning experiences.

### References

Curley, R. ed. 2014. "Animal Husbandry." *Encyclopedia Britannica*. <u>https://www.britannica.com/science/</u><u>animal-husbandry</u>.

Grandin, T. 1989/2018. "Behavioral Principles of Livestock Handling." <u>https://www.grandin.com/</u> <u>references/new.corral.html</u>.

United States Department of Agriculture Animal and Plant Health Inspection Service. 2024/2021. "Defend the Flock - Biosecurity 101." <u>https://www.aphis.usda.</u> gov/livestock-poultry-disease/avian/defend-the-flock.

### Additional Resources

#### Resources for additional learning:

Bell, S., S. Etter, L. Lass, S. Jensen, and T. Prather. 2020. *Pasture and Range Plants That Endanger Livestock in Southwestern Idaho*. University of Idaho Extension Bulletin 960. <u>https://www.uidaho.edu/</u> <u>extension/publications/publication-detail?id=bul0960</u>

#### Body condition scoring:

Beef, swine, sheep, meat goats: https://www.uidaho.edu/-/media/UIdaho-Responsive/Files/Extension/4-H/Animal-Science-Lesson-Plans/nutrition-bcs-l3-allfinal-troland-pdf. pdf?la=en&hash=7D5795BCD3A01DD6E9 A686A61BB4602A0628D1A4

Chickens: <u>https://www.in.gov/boah/current-</u> information/hot-topics/animal-care-and-welfareresource-materials/#Livestock

Dairy cattle: <u>https://extension.psu.edu/body-</u> condition-scoring-as-a-tool-for-dairy-herdmanagement

Dairy goats: <u>https://adga.org/wp-content/</u> uploads/2017/11/adga-dairy-goat-body-conditionscoring.pdf

### Composting or manure management resources:

Rynk, R., and M. Colt. 1997. *Composting at Home*. University of Idaho Extension CIS 1066. <u>https://www.uidaho.edu/extension/publications/</u> <u>publication-detail?id=cis1066</u>

Seyedbagheri, M-M. 2010. *Compost: Production, Quality, and Use in Commercial Agriculture*. University of Idaho Extension CIS 1175. <u>https://www.uidaho.edu/</u> <u>extension/publications/publication-detail?id=cis1175</u>

### Low-stress livestock handling:

Hibbard, W. 2016. "Low-Stress Livestock Handling's 12 Steps to Success." On Pasture. <u>https://onpasture.com/2016/02/29/</u> <u>low-stress-livestock-handlings-12-steps-to-success/</u>.

Manitoba Forage and Grassland Association. 2006. "Low Stress Livestock Handling." <u>https://static1.</u> <u>squarespace.com/static/5c6d9be4797f740e645a4310/t/</u> <u>5e1509f2ab6dea75920d629c/1578437107112/low-</u> <u>stress\_livestock.pdf</u>.

# On-farm biosecurity info (cleaning and disinfection tips):

Healthy Farms Healthy Agriculture. "Cleaning and Disinfection Tips." <u>https://www.healthyagriculture.org/prevent/sanitation/cleaning-disinfection/</u>.

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