



Livestock Handling Guide

Management Practices that Reduce Livestock Bruise and Injuries
and Improve Handling Efficiency

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Handling Stress

Excessive stress during handling lowers livestock productivity. Gentle quiet handling reduces stress. Reducing stress is important because handling stresses lower weight gain, reduce reproductive performance and immune function (ability to fight disease). Keep animals calm. Calm animals are easier to sort and drive than excited animals.

Livestock have long memories. If animals are handled roughly they will remember the rough handling experience and be more stressed when they are handled in the future. Livestock which are handled gently will be calmer and less stressed the next time they are handled. Good stockmanship will improve the bottom line. Animals that are fearful and excited will have lower weight gain, milk production and poorer meat quality. Quiet handling also helps prevent hog injuries and lameness.

Understanding Animal Psychology can help reduce stress and bruises

- **Vision**
 - Cattle, hogs and sheep have wide-angle panoramic vision, which enables them to see behind without turning their heads.
 - Lighting in livestock handling facilities should be even and diffuse and sharp contrasts should be avoided. The installation of white translucent skylights in buildings where livestock are handled will facilitate movement. Skylights will let in lots of shadow free light. Animals will often refuse to enter dark places. The ideal illumination for moving livestock should resemble a bright cloudy day.
 - Livestock are likely to spook or balk at the following and they should be eliminated, if possible: shadows, water puddles, drain grates, shiny objects such as car bumpers, flapping objects, coats on fences, dogs, a bright spot of sunlight coming through a hole in the roof or a loose dangling chain end.
 - Then loading livestock at night, put a light inside the truck, but avoid bare bulbs that glare in the eyes of the animals. Light up dark places you are driving livestock into. Avoid facing squeeze chutes and loading or unloading ramps into the sun.
 - Load confinement hogs at night, if possible, because they are reluctant to come out into the bright sunlight. For easier loading, drop the curtains to equalize the indoor and outdoor light and temperature.
- **Hearing and Smell**
 - When hogs are being unloaded, spread some bedding on the crossover of the ramp to entice them out of the truck. The bedding covers the strange smell of the ramp.
 - Wash blood off restraining chutes in order to reduce balking of cattle.
 - Don't yell and scream at livestock. Their ears are more sensitive than ours. Shaking a plastic garbage bag will move cattle easily and playing music can help calm animals. Loud noise stresses livestock. Yelling and screaming is stressful to livestock.
- **Herd Behavior**
 - Let animals follow the leader at their own pace and they will seldom injure themselves.
 - Don't leave a single steer, heifer, or cow by itself. It is likely to injure itself trying to jump a fence in attempt to rejoin its herd mates. A single animal can be very dangerous to the handler. If it won't go where you want it to go by itself, put some other cattle in with it and move the whole group. Move cattle and hogs in small groups. Crowd pens that lead up for single file chutes should be filled only half full. Do not crowd animals up tight with crowd gates.
 - Different breeds of livestock react differently. For example, Brahman cattle are more excitable than English breeds. Some genetic lines of European continental cattle are more excitable than the English breeds.
 - Confinement hogs move more slowly than hogs raised on dirt. Don't rush them. Cattle and hogs from lines of animals with a nervous, flighty temperament need to acclimated to people walking amongst them before they leave the ranch or farm. Hogs reared in confinement will be easier to drive and load onto trucks if a person walks through their pens everyday. This trains the hogs to

quietly get up and to move quietly around the person. Cattle also need to be acclimated to handling by people on foot. Cattle that have never been handled by a person on foot until they reach the packing plant can be difficult to handle. They will be more prone to bruising and meat quality problems.

- **Flight Distance**

- Take flight distance into consideration in handling all livestock (Figures 1 and 2) when you penetrate the animal's flight zone, it will move away. The size of the flight zone varies, depending on the wildness or tameness of the animal. Most feedlot cattle have a flight zone of about 5 feet, whereas wild range cattle will run when you get within 100 feet of them.

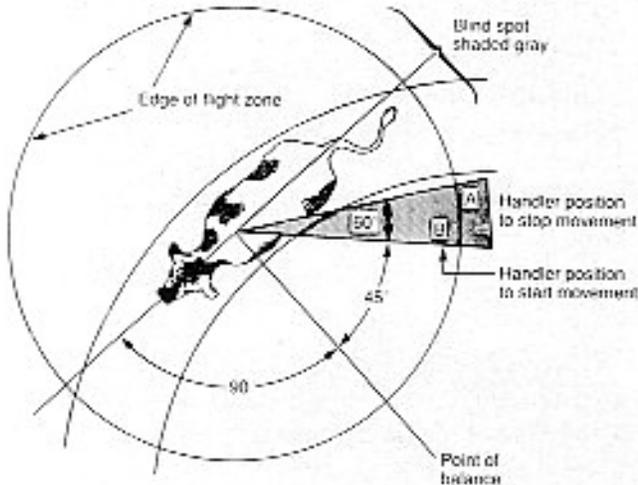


Figure 1: Handler positions for driving a single animal most efficiently.

Figure 1. Handler Positions for Driving a Single Animal Most Effectively

You can move animals most easily with a minimum of excitement if you position yourself on the boundary of the flight zone, as shown in Figure 1. The letters A and B indicate the correct positions for you to stand to move an animal forward. If you move in front of the point of balance at the animal's shoulder it will back up. If you penetrate the flight zone too deeply, the animal will attempt to get away, either by running from you or turning back and running back past you. When you are moving cattle in an alley, you must RETREAT and BACK UP if one attempts to turn back. You have to get out of the flight zone. If an animal starts rearing up in a single file chute, step back and get out of its flight zone.

Cattle and sheep have a natural tendency to circle around the handler and keep you in view at all times.

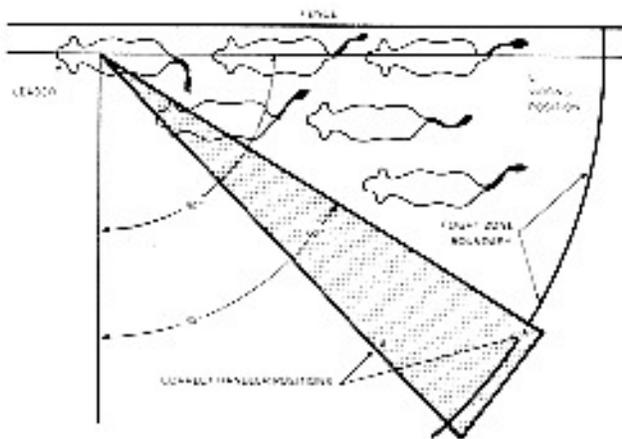


Figure 2: Handler positions for moving a group of cattle most efficiently along a fence.

Figure 2. Shows how to move an animal forward by walking quickly past the point of balance in the opposite direction of desired movement. When the point of balance is crossed, the animal will move forward.

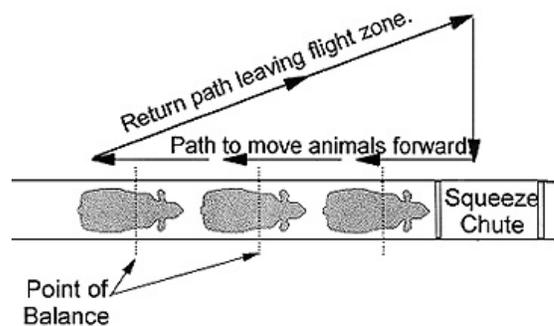
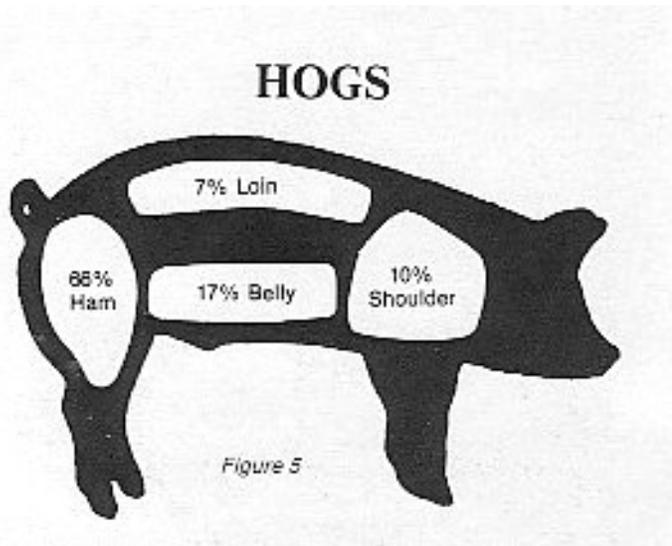


Figure 3 shows the most efficient positions for the handler when moving livestock along a fence. You should stay in position A or B. If you move into position C you will turn the animals away from the fence. The most effective position is to stand at an angle behind the animals, rather than directly behind them.

- Thin cows bruise more easily than choice steers. Twenty-two percent of nonfed cows have major bruises. Cattle which go through stockyards have more bruises than cattle sold directly to the plant. In one survey, cattle sold on a live weight basis had twice as many bruises, compared with cattle sold on the rail. Producers who sell on the rail have the bruises discounted from their payment, since the bruises are trimmed away before the carcass is weighed.



Judas goat or a "pet" sheep to lead them.

Hogs

- Note that 66 percent of all hog bruises occur in the valuable hams (Figure 5). Both hams may be ruined, requiring that they be trimmed and discarded, if a hog falls and does the "splits" (spreader injury). Lean hogs bruise more easily than hogs with thicker fat cover. Hitting lean hogs with slappers or sticks can cause bruises.

Sheep

- More than a fourth of all lamb bruises (27%) occur on the leg, while 17 percent occur on the loin. Ten percent of all fed lambs have carcass damage.
- The most common cause of bruising is grabbing sheep by the wool or by the hind leg. Use a

Preventing Bruises

- A bruise results from a blood vessel hemorrhaging under the hide. The outside of the animal can appear normal even when there is a large injury under the hide. Contrary to popular belief, an animal can still be bruised after it is stunned at the packing plant, up until the time it is bled.
- The most common cause of cattle bruises is a hard bump against a protruding object or horns. Objects with a sharp edge such as an angle iron are most likely to bruise. Hog bruises are most often caused by kicking the ham or hitting them with canes or clubs.
- More than 50 percent of all bruises are caused by rough, careless handling. Don't rush livestock. Let them follow the leader and move at their own pace. Rough handling during loading at the feedlot of origin was the major cause of bruises in one survey.

Cattle

- **Persuaders** – The best tools for moving cattle are plastic paddle sticks or a small flag on the end of a stick. These devices can be used to turn cattle by blocking their vision on one side of their head. Ninety-five to ninety percent of cattle can be moved without an electric prod. Get electric prods out of people's hands.
- **Horns** – Groups of horned cattle have more bruises than groups of hornless (polled) cattle. Tipping will not reduce bruising. The horn button should be removed from young calves or you should breed polled cattle. Overcrowding horned cattle in a truck will greatly increase bruising.
- **Gates** – A common cause of loin bruises is throwing a gate into the side of an animal. A bruise will result if the animal becomes wedged between the end of the gate and the fence. Tie backs should be installed on all gates, to hold them flush to the fence. Sagging gates should be repaired.
- **Protruding Objects** – Broken boards, nails and exposed bolts should be eliminated. Check facilities by looking for shiny, rubbed spots or tufts of hair. These indicate areas where cattle are bumping. Vertical sliding gates should be padded on the bottom with large diameter hose. Corners can be padded by cutting strips from old tires or conveyor belting.
- **Overloaded Trucks** – Bruises increase when trucks are overloaded because a downed animal cannot get back up. Sudden stops and rapid acceleration will increase bruises because animals may be thrown off balance.
- **Fencing** – Planks, sheet metal or other fencing materials should be installed on both sides of the posts toward the cattle. If animals are being handled on both sides of the fence, install a belly rail to prevent them from catching hips on the posts.

- **Bruise Hazard Zone** – The area from 28 inches to 52 inches from the floor is the hazard zone.
- **Flooring** – Provide good footing. In new facilities with concrete floors, in areas where cattle are handled, score the concrete in an 8-inch diamond pattern with grooves at least an inch deep. In existing facilities roughen the concrete with a jackhammer or a concrete grooving machine. Another alternative is to install a grid made from 1-inch steel bars. The grid works well on scales and in front of the squeeze chute. The grid must be welded flat so that animals do not catch their hooves under the bars.
- **Trucks** – More bruises occur in semi-trailers which load through the side, compared with trailers which load through the rear. Bruises occur when the cattle strike the door frame while making the 90 degree turn to exit from the trailer. Bruises in this type of trailer can be reduced by replacing the standard 30-inch door with a 42-inch door which is tapered, making the opening smaller at the bottom. This forces the animal to walk through the center of the door and prevents catching a hip. However, careful quiet handling will minimize the effects of different truck designs.

Hogs

- **Persuaders** – The use of electric prods should be eliminated in hog houses. The only places an electric prod is needed is at the entrance of a truck or to drive hogs into a restrainer at a packing plant. Get electric prods out of people's hands. A flag, panel or a plastic paddle stick should be the person's primary driving tool. Large flags made from a piece of 30-inch x 30-inch light weight plasticized cloth works really well for moving hogs.
- **Gates** – All gates should have tie-backs and latch should be on the top of the gate to prevent bruising. A hog gate should be hung no more than 4 inches off the floor to prevent injuries. Articulated gates which fold in the middle are handy for crowding hogs.
- **Bruise Hazard Zones** – The hazard zone for bruises is the area between 12 inches and 30 inches from the floor.
- **Flooring** – Provide good footing. A spreader injury can completely ruin both hams. In new handling facilities with concrete floors, a very rough broom finish is best, or tamp the wet concrete with an expanded steel tamp.
- **Trucks** – Be especially careful when you load or unload hogs from double deck semi-trailers designed for cattle. Hogs will pile up and fall down the internal ramps in these trailers if rushed. If at all possible, load and unload the hogs from the top decks through a high chute, which enables them to walk straight on or off.

Loading Chute Recommendations for All Species

- Permanently installed loading ramps should have no more than a 20 degree slope.
- Portable or adjustable loading ramps should have no more than a 25 degree slope.
- All permanently installed leading ramps should have a flat landing at the top, so the animal has a flat surface to walk on before entering or after exiting from the truck. The flat landing is especially important when animals are unloading from a truck. The flat landing should be a minimum of 5 feet long for cattle ramps and for hog ramps at packing plants and stockyards. At beef packing plants the level landing should be a minimum of 10 ft. long. The flat landing should be at least 3 feet long for hog ramps on the farm.
- A staircase ramp with 12 inch tread width and 3 ½ to 4 inch rise on each step is best or permanently installed ramps. Portable or adjustable ramps should have cleats spaced 8 inches apart. Cleat dimensions should be 1 ½ by 1 ½ inches. Ramps used for small piglets need small closely spaced cleats. The dewclaws of small animals can be damaged if the animal slips between cleats designed for larger animals. Dewclaw damage is most likely to occur during unloading.
- Ramps should have solid sides to block out distractions from outside the chute which may spook the animals.
- A self-aligning dock bumper or bull board (crossover-bridge) is needed to bridge the gap between the chute and the truck. The chute should also have telescoping side gates or panels which fit against the truck to prevent animals from jumping through the gap.
- Cattle loading ramps should be curved (see [Figure 6](#)). They should be only wide enough to permit cattle to walk single file. The correct dimensions are 30 inches wide for beef cattle and 32 inches for dairy cows.
- Ramps used for unloading only, either cattle or hogs should be 6 to 20 feet wide to provide a clear path to freedom. These ramps should NEVER be used for loading livestock.

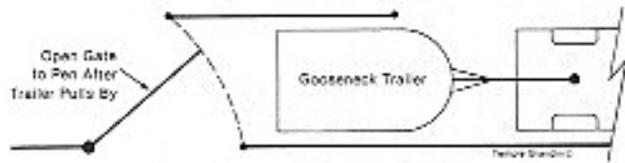


Figure 7: Drive-through chute for unloading cattle from gooseneck trailer.

Figure 7

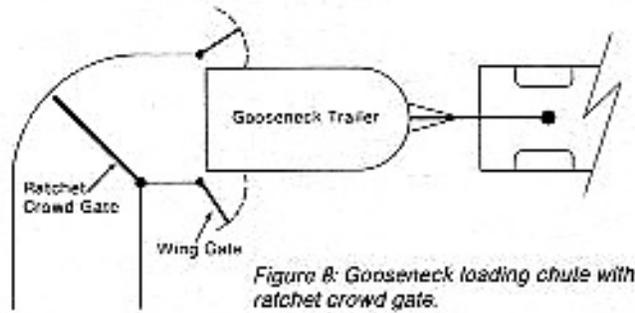


Figure 8: Gooseneck loading chute with ratchet crowd gates.

Figure 8

Sources for Bruise and Stress Data

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Further Reading

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