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Shrink

"Shrink" is the term given to the weight animals lose when they are handled and hauled. It is a significant and costly loss to the seller and should influence the price offered by the buyer. Some shrink is inevitable, but steps can be taken to minimize its effect.

Loading, hauling and unloading animals will result in at least a 2 percent loss in body weight, even if the haul is under 10 miles. Young animals may lose 8 to 12 percent body weight, whereas older animals tend to lose only about half that amount. Shrink can result from both excretion of urine and feces, and actual loss of body tissue and body water. Animals held off feed and water for 12 hours tend to suffer only excretory losses (urine and feces); however, when they are handled and transported, they also suffer tissue and body water losses. Excretory losses can be replaced with a few hours of rest, feed and water. However, weight lost from severe shrink, such as is experienced when moving animals long distances, may require up to two weeks to be regained.

While both heat and cold increase shrink, the way livestock are handled and the distance hauled probably have a more dramatic effect. Other factors known to affect shrink include crowding, wind, precipitation, weaning and temperament of the animals. Table 1 shows the effect of several factors that cause shrink.

Table 1. Factors Affecting Shrink In Feeder Cattle*

Condition	Percent Shrink
8 hours off feed and water	3.3
16 hours off water	2.0
16 hours off feed and water	6.2
24 hours off feed and water	6.6
8 hours in a moving truck	5.5
16 hours in a moving truck	7.9
24 hours in a moving truck	8.9

** Experimental data from Michigan State University and the University of Wyoming.*

Iowa State University researchers tested 4,685 feeder cattle and found that those purchased directly from a rancher shrunk an average of 7.2 percent, while those purchased from a sale yard shrunk an average of 9.1 percent. They also found there was 0.61 percent shrink for each 100 miles in transit. In this study, about half the shrink was excretory and half was tissue loss. Calves required 13 days to regain the loss, while yearlings required 16 days to recover the weight lost due to shrink. While these figures are for cattle, they are very close to those for sheep, but may be 3 to 5 percent too high for hogs.

The custom of applying a pencil shrink (arbitrary amount equal to 3 percent of body weight) was developed in lieu of allowing animals to stand overnight without feed and water. Such an overnight stand will result in about a 2 percent weight loss. While this arrangement is probably equitable for both the buyer and seller when the scale is close, if pencil shrink is applied to weights obtained at a point that is more than 15 miles from the farm, a double shrink will occur.

Shrink can be significant in a transaction. For example, if a feeder let animals stand overnight without feed and water, they would shrink at least 2 percent. If he loaded and hauled them eight miles to a scale and unloaded them, they would shrink another 2 to 3 percent. If an additional 3 percent pencil shrink was added, the total hypothetical weight loss would be 7 to 8 percent, but the actual weight loss

The truck, bedded with discarded grass hay, and fitted with solid sides with a slot at the top, gives these young calves good protection during a long, cold ride. Photo by Ken Krieg, Extension Livestock Specialist.

would only be 5 to 6 percent. If these figures were applied to 100 head of 1,200-pound cattle sold at $50.00/cwt, the difference would amount to $1,200.00.

Much of the stress of loading and unloading livestock can be avoided with the use of proper chutes, alleys and equipment. Hogs prefer to walk side by side in small groups rather than head to tail. Therefore, alleys and loading ramps should be 4 to 5 feet wide. Cattle and sheep, on the other hand, work better in single file. Alleys and chutes that are constructed with sides wider at the top than at the bottom prevent animals from turning around. For cattle, the sides should be 12 inches wide at the bottom, 30 inches wide at the top and 5 feet high. Animals work better through chutes and alleys with solid sides rather than slotted. Avoid angles of less than 120° in a working alley. An angle of about 150° placed at the junction of the working alley and the loading chute will entice animals to enter the chute more quickly as they apparently think it is an avenue of escape.

The use of electric prods and whips should be avoided since they cause undue trauma and bruises. Wide canvas slappers do not harm the animals and are effective in making them move. Patience, good working facilities and experienced handlers are the best combination for moving livestock quietly and efficiently.

A producer can take the following steps to minimize shrink:

1. Keep animals on full feed and water for 12 hours before they are transported.
2. Equip the farm or ranch with adequate handling facilities.
3. Handle animals as quietly and carefully and as little as possible.
4. Avoid mixing "unacquainted" animals immediately before or during handling and hauling.
5. Provide good footing for animals in chutes and trucks.
6. Load animals snugly into trucks.
7. Avoid mixing different sizes and species in one load.
8. Drive as carefully as possible and use the best roads.
9. When the temperature is above 80°F, haul animals in the coolest part of the day or at night.
10. Always provide adequate ventilation in the truck or trailer but avoid drafts during cold weather.
11. Provide wind and rain protection, especially in cold weather.
12. Stop every 20 to 50 miles to check for down animals.

The law requires that animals be unloaded, fed, watered and rested every 28 hours unless the haul will last less than 36 hours and a "36-hour release" is obtained.

Sellers have tried numerous "tricks" to reduce shrink. Most are ineffective and all such unscrupulous practices create mistrust and ill feelings within the industry. Sellers would do well to concentrate their efforts and ingenuity on honest, legitimate management practices which will increase net income from their livestock enterprises.

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