



## Beef Cattle Shrink

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### INTRODUCTION

There are many factors that are responsible for shrink of cattle during the marketing process. Many producers do not understand that shrink is a weak link in marketing cattle. Cattle producers spend a great deal of time and energy to make their cattle gain weight and weigh as much as possible. Then, when they pen, process and transport their cattle for market, the cattle lose weight. Feedlots and order buyers understand shrink and diligently strive to minimize its effect. The potential for stabilizing or improving net return decreases as shrinkage increases. An increase in knowledge about shrink and the factors that affect it is critical to maximizing profits.

### WHAT IS SHRINK?

Shrink is the weight that cattle lose during penning, sorting, weighing, standing, transporting, held without feed or water or any change in the environment that causes stress. Shrink can be a measurement of cattle stress and represents a value loss. There are two types of shrink. The first type is loss of fill or excretory shrink. This shrink is the loss of contents in the rumen, digestive tract and bladder. It occurs when cattle experience any type of change and is usually recovered quickly once the cattle are provided with feed, water and rest. The second type of shrink is tissue shrink. Cattle compensate for the loss of moisture in internal organs by drawing water and nutrients from carcass tissue. The recovery from excessive tissue shrink can take over 30 days. It reduces profit for the producer by decreasing performance and increasing sickness and death loss.

### HOW DOES SHRINK OCCUR?

When cattle experience a change in environment and their primary needs are not met, shrink occurs. Younger calves and light feeder cattle suffer a rapid rate of shrink. As cattle become older, or are on feed a longer period of time, the rate of shrink is usually moderated. Cattle need access to feed and water during the marketing process. This is evident by the fact that over 65% of shrink is a result of fasting. As ambient temperature increases, shrink also increases, and so does the fraction of total loss due to tissue shrink. The majority of shrink occurs within the first few hours of gathering, handling, sorting, loading, standing and transportation. When in transport the degree of weight loss levels off until it is triggered again by unloading, sorting, standing, mixing and fasting. Shrink during the first three to four hours averages about one percent of body weight per hour. After about ten hours, shrink is as little as 0.1% per hour. Higher shrink usually occurs when there are more problems in gathering, sorting and loading. Nervous, excitable cattle usually shrink more than other cattle. Rest is important to reducing shrink. Cattle that cannot rest will experience an increase in shrink of 15-20%. Because of the social nature of cattle, they find it very disruptive to be mixed with other cattle. A producer can expect shrink to double when mixing occurs during the marketing process. Cattle have a strong social structure and react immediately when this is disrupted. Even when gathered and sorted in their own environment, the stress of the activity can be measured in the degree of shrink. For example, young cattle can lose more

than three percent of their body weight in the sorting and loading process alone. For each half hour spent sorting calves, you can expect a half percent reduction in body weight. Although cattle naturally lose two percent of their body weight at night, an overnight stand without food and water results in a six percent loss of body weight. Shrink, like stress, is cumulative. The more stress you expose cattle to, the higher degree of shrink. Cattle are sensitive to movement, light, sound, and the constant change of environment and people during the marketing process increases shrink and decreases the long term health of the cattle. Many factors influence the time required for cattle to regain fill and tissue shrink. Some of those factors include the amount of shrink, type of shrink, cattle health, type of feed and weather conditions. Cattle that are subjected to considerable tissue shrink coupled with continuing sources of stress such as sickness or commingling will require several days and even weeks to regain their pre-shrink weight.

### CONTROLLING SHRINK

Shrink can be controlled and minimized by focusing on sound animal welfare practices. Avoid exposing cattle to different environments as much as possible during the marketing process. Sort cattle at home with knowledgeable cattle people. Poor temperament of cattle and/or people can be costly. Take care when loading and unloading. Avoid fasting and standing by supplying feed and water. Avoid mixing cattle whenever possible. And finally, ship cattle during cooler times whenever possible.

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