



# BEEF CATTLE TIME

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## Shrink Is a Concern to Both Producer and Buyer

*James B. Neel, Professor  
Animal Science*

Shrink can be defined as weight loss of cattle that occurs over a short period of time. Shrink can also be defined as a loss in value. Shrink occurs due to a loss of gut fill and, in extreme cases, tissue losses. Shrink is also called “drift.”

Shrink is important during marketing. Sellers are concerned about shrink because cattle will weigh less when they get to a scale than what was believed when they were rounded up for market. Buyers are concerned about shrink because cattle that lose an excessive amount of weight are more likely to experience sickness. Buyers are also concerned about the weight loss that occurs between the purchase weight and the “laid in weight” at the stocker or feedlot site because this increases the cost per pound of the animal.

Weight of the feeders at the farm will be greater than either “in weight” or “out weight” at a feeder calf sale or auction market. Most feeder calf sales sell on “in weight” while auction markets normally sell on “out weight.” Some producers are not aware of the factors influencing shrink and may question the accuracy of the scales.

Shrink is going to occur. Buyers know this. Buyers frequently ask producers to compensate for shrink by providing a 2 to 4 percent discount or pencil shrink. Producers should not allow calves to experience excessive shrink prior to weighing to avoid taking both the pencil shrink and actual shrink.

Some items that affect shrink are the amount and kind of gut fill, handling and shipping, time and distance traveled, and time cattle “stand” in the sale barn before being weighed and sold. Calves should not be left overnight without feed and water. Research in Iowa indicated that feeder cattle purchased through auction markets had an average shrink of 9.2 percent and 10.5 days were required to recover to pay weight.

Cattle grazing lush pastures will have more fill than those on hay or concentrate rations. Weaning calves and starting them on feed for 45 days will result in less shrink than marketing them directly off grass and milk. Calves sold directly off their dams will experience added stress because they have not been eating and drinking from troughs and water tanks. Do not hold cattle off feed before marketing. Keep them on their normal ration. Do not over fill. “Tanked” cattle will be discounted.

The factors affecting shrink the most are the time and distance hauled. Cattle will shrink about 1 to 1.5 percent per hour the first 3 to 4 hours hauled and about 0.25 percent per hour for the next 10 to 12 hours. Research demonstrated that feeders hauled 636 miles experienced 8 percent shrink. A change of 100 miles resulted in an increase or decrease of 0.61 percent shrink.

The management and handling of calves during round up and transport will also affect shrink. Cattle should be handled as easily and quietly as possible. Do not make this a timed event. Do not overload or underload the truck and/or trailer. Do not mix cattle of different sizes. Cattle should be transported to the scale in as short a time as possible. Transport the cattle as easily as possible, avoiding sudden stops and starts. Plan ahead in order to limit the time spent in line to unload. Also, try to avoid hauling cattle during periods of extreme heat or cold.

Season also impacts shrink. Elevated temperatures result in greater shrink and stress than cooler temperatures.

If feeder cattle shrink more than 10 to 12 percent of their normal weight, the cattle are highly stressed and will be more susceptible to disease organisms. It is possible to experience this amount of shrink during 1 to 1½ days of transport.

Shrink is to be expected during the marketing process, and producers should take steps to manage and reduce it. Weaning and starting calves on a complete feed is one practice that can reduce shrink and add value to the cattle.

## Improve Pasture Use Through Rotational Grazing

*Gary Bates, Associate Professor  
Plant Sciences*

Abundant forage growth is always a wonderful thing to see in pastures following a tough winter. Following basic recommendations like fertilizing, soil testing, controlling weeds and planting clovers will help to provide this growth. Don't follow good forage production procedures and then use poor forage harvest procedures. One of the mistakes that occur every year in Tennessee pastures is the poor utilization of excess pasture growth.

The initial growth of a tall fescue plant during the spring is very good quality forage. The plant grows new leaves that are high in protein and energy. But as the spring progresses, the plant produces a seed head. The main goal of the tall fescue plant changes from trying to grow leaves to filling the seeds in order to reproduce itself. The rate of leaf growth drops because energy is going to the seed head instead of the parts of the plant that produce leaves. The quality of the forage also drops. As leaves grow older, the protein and energy levels decrease while the fiber level increases. The result is a lower quality forage.

The problem of low quality and reduced leaf growth in the late spring and early summer is caused by excess forage growth. The plants are growing faster than the cattle can eat them. The difficulties caused by this excess growth can be minimized if good grazing management principles are used.

Many articles written about controlled or rotational grazing are confusing and make the topic seem difficult. Controlled grazing is simple if one basic concept is understood. The goal of controlled grazing is to force the cattle to eat all of the forage available in the pasture without overgrazing the plants.

If cattle are allowed a large area of pasture to graze, the majority of their grazing will occur close to water and shade. The other areas of the pasture will not be grazed, resulting in waste in these portions of the pasture. If the cattle have enough forage close to the water and shade, forage on the edges of the pasture will mature, drop in quality and be wasted.

A good grazing management program will limit cattle's access to the pasture. The cattle will be concentrated on a smaller area and not allowed the opportunity to be selective as to where they graze. They are forced to graze over the smaller area of pasture and remove all of the forage. Little forage is wasted. After the cattle graze all the forage in this smaller pasture (or paddock), they are moved into a new paddock and the process starts over again.

This type of management helps in two basic ways. First, it improves the amount of forage utilized and therefore decreases the amount of forage wasted. In the spring when excess forage is produced, some of it can

be cut for hay because not as many acres are needed for grazing. As spring progresses and high temperatures develop, forage growth will decrease. The acres that were used for hay can then be put into the grazing rotation. The early forage growth on the edge of the pastures will be put up as hay instead of wasted.

Second, the plants have a rest period. Once the paddock is grazed down, cattle are moved to a new paddock. The plants in the previous paddock can regrow. This is especially important during the summer when high temperatures and drought stress tall fescue plants. Instead of the cattle grazing the young regrowth, the plants are allowed to fully regrow, store depleted root energy reserves and recover from the grazing. The result is a quicker regrowth and a healthier stand.

Decreasing pasture size and concentrating cattle on a smaller area of land will improve forage utilization, decrease stand loss from overgrazing and improve per-acre production.

## Feeding Management Adds Value During Weaning and Preconditioning

*Warren Gill, Clyde Lane, James Neel, Professors  
and*

*Aaron Fisher, Assistant Extension Specialist  
Animal Science*

Too many feeder calves are sold directly off the cow without proper conditioning to withstand the stresses during marketing. This results in a significant percentage of sick and/or dead calves. Calves that have been weaned and started on feed at least 45 days prior to selling withstand the stress of transportation and handling associated with marketing procedures. This process is termed "preconditioning."

Since 1999, a series of studies have been conducted at the University of Tennessee Highland Rim Experiment Station to evaluate various weaning procedures. The results of these studies will help beef producers assess the value of weaning their calves prior to marketing. The complete studies may be reviewed on the Department of Animal Science web site: <http://www.agriculture.utk.edu/ansci>.

### Recommendations for Supplemental Feeds in a Preconditioning Program Based on Trials at Highland Rim Experiment Station

- *The ration should contain at least 13 percent Crude Protein (CP).* Protein could possibly be higher during the first three weeks of the feeding period, especially when lower quality forage is used. Over the entire feeding period, the average CP should be 13 percent.
- *The ration should contain at least 72 percent Total Digestible Nutrients (TDN).* This is the minimum to sustain desirable gain and may need to be higher with lower quality forages.

- *Feedstuffs high in digestible fiber should be considered.* Soybean hulls, cottonseed hulls, wheat middlings, beet pulp, citrus pulp and corn gluten feed are examples of feedstuffs containing highly digestible fiber. These ingredients complement forages, assuring that the least-expensive part of the calves' diet is efficiently utilized.
- *Limit feeds high in starch during the early part of the feeding period.* Corn is the most common source of starch. If corn is fed at more than 0.4 percent of body weight, efficiency of forage usage decreases. If the goal is to achieve inexpensive gains from forage, consider limiting corn to 0.5 percent or less of body weight.
- *Understand and utilize feed additives.* Antibiotics are often added during the initial phase to prevent or minimize problems with respiratory and enteric infections. After the initial stress is over, consider feed additives that improve performance, such as ionophores (Rumensin<sup>®</sup>, Bovatec<sup>®</sup>, etc.).
- *Mineral fortification may be very important.* Recent evidence has confirmed that a significant proportion of Tennessee forages and cattle are deficient in minerals that are critical to immune system function. Copper, selenium and zinc all play roles in immunity and are commonly deficient. Adding these to supplements is desirable.

### Other Feeding Suggestions

- If commercial feeds are utilized, follow label instructions. This is important if the feeds are medicated. Consumption at the indicated rate assures the correct level of additives is obtained.
- As a general rule-of-thumb, supplemental feeds need to be consumed at a minimum of 0.5 percent of body weight (3 pounds for a 600 pound calf) in order to yield measurable results. The maximum level of feeding in a forage-based ration is 1.0 percent (6 pounds for a 600 pound calf). At this level, significant improvements in weight gain should be expected.
- Calves should be observed for signs of becoming too fat. Calves that are too fleshy may be discounted at marketing.

### Summary

These trials have shown that feeder calves can be efficiently and economically weaned and preconditioned using both available and commercial feeds. These calves will make efficient and adequate gains to make a profit. The use of supplements with highly digestible fiber such as soy hulls, wheat middlings, corn gluten, etc. can improve performance. Data indicate that the preconditioning period should be a minimum of 45 days.

For more information, please visit <http://www.agriculture.utk.edu/ansci>.

## Concern about COOL

*Emmit L. Rawls, Professor  
Agricultural Economics*

Country of Origin Labeling (COOL) is being discussed in most cattle publications. At the get go, the whole idea seemed simple enough. Just stamp "Made in the U.S.A." and folks would choose U.S. origin beef over imported beef. After all, Sam Walton made it a big part of the Wal-Mart advertising campaign. The law, which was part of the 2002 Farm Bill, requires that the United States Department of Agriculture (USDA) promulgate a regulation by which grocery stores must label fresh meats, fish, fruits, vegetables and peanuts with the country in which they were grown and processed by September 30, 2004. It has since stirred up political heat from many sectors. The purpose of this article is to shed some light on the issue and generally inform those who may not be aware of the controversy.

According to some, calves born early this year, harvested and moved into retail meat channels by September 30, 2004 must be identified back to farm of origin and verified by some third party. To date, not many producers are rushing out to begin that process outside of their normal cattle identification programs. Interestingly, the law specified that mandatory livestock identification could not be required in the process of carrying out this act. Furthermore, the specified items used in the food service business (restaurants, hospitals, etc.) do not have to meet the requirements of the law. The USDA estimated cost of the program at \$2 billion and published voluntary guidelines in the Federal Register of November 21, 2002. Details can be obtained at <http://www.ams.usda.gov>. Many agricultural groups feel the cost estimate is overstated and want it reevaluated, while those in manufacturing and retail business feel the cost could be understated. The USDA has yet to publish exactly how the source verification will be accomplished or what records must be kept. It is evident that those who do not deal with imported food items feel they should not be burdened with identifying the food they produce in the United States. The picture is less clear for feeder cattle brought in from Mexico and fed, processed and sold through retail stores here. Then there are feeder cattle, especially from the Northwest, that move to Canada to be finished and perhaps processed with some of the beef coming back to the U.S. to be consumed. The National Meat Association plans to challenge the constitutionality of the law. The pork producers have done a study which says their costs will increase by \$10 per head.

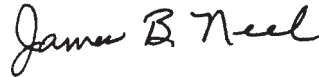
Lost in much of this controversy is the issue of traceability in the food chain. This country exports about 9 percent of its beef and pork production and 20 percent of its poultry production. Increasingly, the countries that these products are sold to will want traceability of food items. Japan has had 6 cases of BSE or mad cow disease. This has impacted their demand for imported

beef, and they are moving toward traceability. The more the U.S. livestock industry depends on exports of meat products, the more we must comply with the regulations imposed by other countries. The COOL law has angered Canada and Mexico with whom we carry on much trade. Canada has a mandatory identification system for cattle which will be used to gain a leg up on us in world export markets. The Canadian system requires that cattle be identified on arrival at a market place or meat packer or be subject to fine. Ear tags with bar codes, visual numbers or electronic identification tags are being used.

In addition to the COOL concerns and issues, a National Food Animal Identification Task Force (made up of government and industry) has developed a National Identification Work Plan. Its efforts have focused on the need for such a system to address concerns related to

animal health, food safety, COOL, export market access and genetic improvement.

Many feel it is likely that the implementation of the COOL law will be delayed. Such was the case with the Mandatory Price Reporting Law because it became a bigger task than first estimated. What should beef producers do in the meantime? Become informed about the issue.



James B. Neel, Professor  
Animal Science

## Beef Cattle Time

From:

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Leader/Agent

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Charles L. Norman, Dean

AGRICULTURAL EXTENSION SERVICE  
U.S. DEPARTMENT OF AGRICULTURE  
THE UNIVERSITY OF TENNESSEE  
2505 RIVER DRIVE, ROOM 204  
KNOXVILLE, TENNESSEE 37996-4575

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