

# Beef Cattle Handbook



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## Feeder Cattle Production and Marketing

Derrell S. Peel, Ag Economist, Oklahoma State University  
 Clement E. Ward, Ag Economist, Oklahoma State University

### Production by Area

Beef we eat comes from both beef cattle and dairy cattle. Eighty to 85 percent of the calves produced for the purpose of being fed grain in feedlots come from beef cows. Beef cow herds are widely distributed throughout the United States. Figure 1 shows beef cow numbers by state and region. Texas has the most beef cows, followed by Missouri, Nebraska, Oklahoma, and Montana. The largest regional concentrations of beef cows are in the Southern Plains, followed by the Northern Plains, Mountain, Corn Belt, and Appalachian Regions. Since some feeder cattle come from dairy cows, Figure 1 also identifies those states having the most dairy cattle.

Over the past three decades, beef cow-calf production has shifted toward southeastern and Appalachian states. Relative shares of total beef cow production have increased in those areas, while Mountain and Delta regions have decreased in shares of beef cow produc-

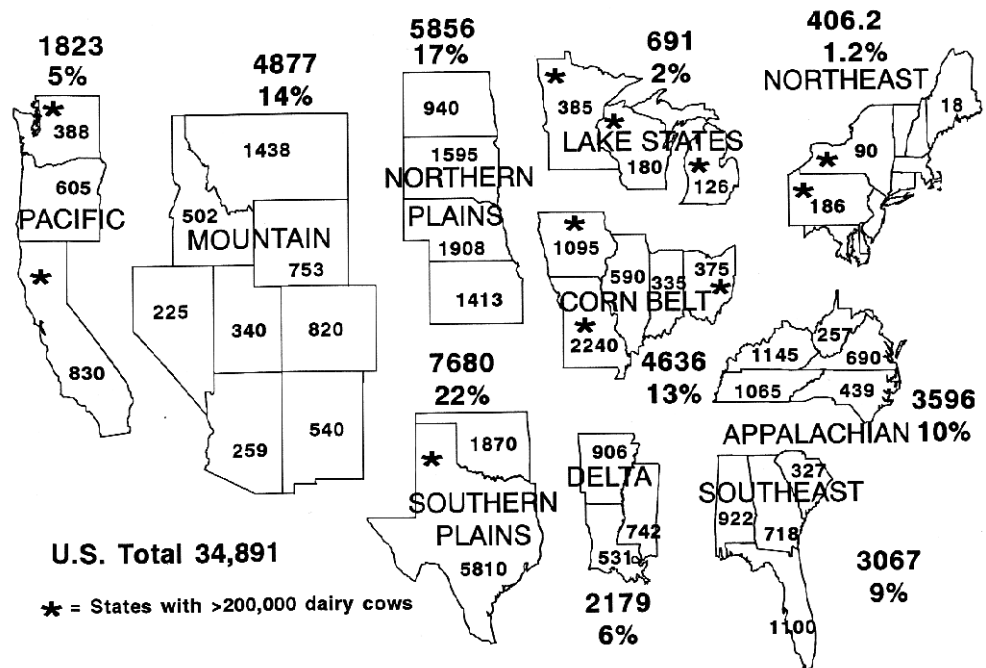


Figure 1. US Beef Cows by Region, January 1, 1994.

tion. Other regions have stayed mostly constant in regional shares of beef cows.

### Production by Size

Typically, producers of feeder cattle are relatively small-scale operators. In 1993, the beef cow inventory of 35 million head was distributed over 910,000 beef cattle

operations suggesting an average U.S. beef cow herd size of 38 cows. This figure varies by state, from 5 head in Rhode Island to 161 in Nevada.

Average herd sizes reported above are somewhat misleading because the distribution of beef cow operations includes a large number of small herds and relatively few large herds. The size and inventory distributions of U.S. beef cow operations illustrates this point (Table 1). In 1993, herds of less than fifty cows made up nearly 91 percent of all operations and included about 33 percent of beef cow inventory. However, herds of more than 500 cows made up less than 1 percent of the number of operations, but accounted for nearly 13 percent of beef cow inventory. States with the highest proportion of beef cow inventory in small herds

**Table 1. Size Distribution of U.S. Farms with Beef Cows.**

Herd Size (# of head)	Percent of total farms with cattle	Percent of total cattle inventory
1-49	80.8	32.6
50-99	11.3	19.5
100-499	7.335.0	
500+	0.6	12.9
	100.0	100.0

Source: USDA-NASS

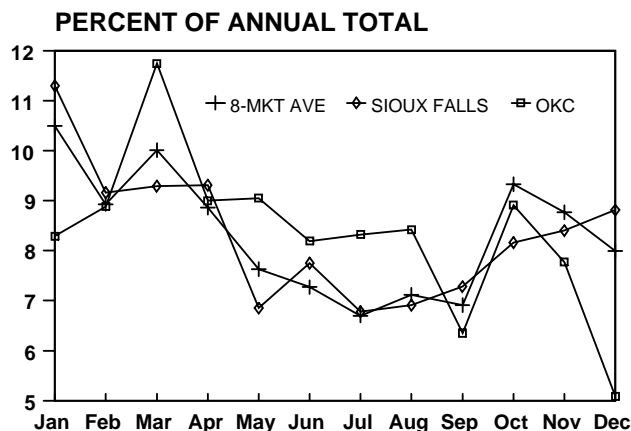
include Pennsylvania, Ohio, Indiana, Illinois, and Tennessee. States with the highest proportion of beef cows in 500+ cow herds includes Arizona, Florida, New Mexico, Wyoming, and California.

### Seasonal Production and Marketing

Calving is seasonal in most beef cow herds and varies geographically. The majority of beef operations in the northern part of the U.S. are bred to calve in the spring months. Producers in southern regions may opt to calve in the fall, or use a combination of spring and fall calving. In some instances, calving occurs year round. Although difficult to verify, it is estimated that approximately 70 percent of the U.S. beef calf crop is born in the spring with most of the remaining 30 percent born in the fall.

Differences in calving season, variation in forage production, and the impact of stocker enterprises often associated with beef cow operations, all influence cattle marketing and price patterns. The eight-market average of monthly salable receipts at public stockyards shows that monthly marketings of cattle vary from nearly 10 percent of the total in the first quarter, to less than 7 percent in the third quarter of the year (Figure 2).

Significant geographical differences in the timing of feeder cattle marketings are illustrated by the comparison of average monthly marketings at Sioux Falls, South Dakota versus Oklahoma City, Oklahoma. The monthly pattern for Sioux Falls is fairly typical for northern



8-MKTS = OK City, Omaha, National, St Joseph, Sioux City, Sioux Falls, South St Paul, and West Fargo

**Figure 2. Distribution of Salable Receipts at Public Stockyards, 1990-1994 Average.**

regions, with cattle marketings declining in the first half of the year and rising in the second half. The predominance of spring calving results in the majority of calves marketed in the fall. Drylot backgrounding and stockering calves on corn-crop aftermath delays some marketings until January. Some producers also hold calves until January for tax reasons.

By contrast, the monthly pattern of marketings in Oklahoma City is more variable and indicates some different influences. In the southern plains, wheat pasture stockering in the winter results in significant changes in the cattle marketing pattern. Fall marketings are characterized by a sharp increase from September to October, then a decline to seasonal lows in December. This reflects the movement of cattle to wheat pasture prior to December. The most pronounced aspect of cattle marketings at Oklahoma City is the spike in March. This is due to the movement of cattle off wheat pasture. Cattle must be removed prior to the emergence of the wheat-seed head if the wheat crop is to be harvested for grain. Thus, wheat physiological conditions determine the movement of cattle off wheat pasture by a fairly rigid timetable, which typically occurs in the first two weeks of March. The other significant difference in the Oklahoma City marketing pattern, compared to Sioux Falls, is the higher proportion of cattle marketed through the summer months. This is related to summer stocker grazing typical of the region.

### Cyclic Production and Industry Size

Cattle cycles are an institution in the cattle business. Figure 3 shows seven such cycles since 1930. Cycles occur because of the biological time lag between the time a cow-calf producer decides to increase or decrease cattle production and the time resulting changes occur in the beef supply.

Many producers make production decisions based on current prices rather than expected profits. When prices are high, producers decide to increase herd size

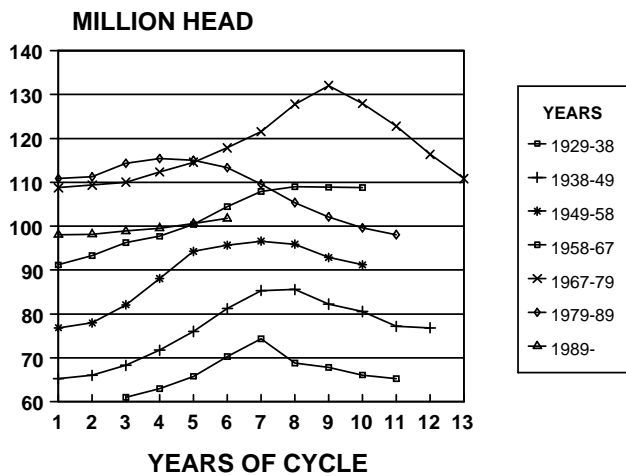


Figure 3. Cattle Inventory by Cycles, 1930-1994. All Cattle and Calves, January 1.

and produce more feeder cattle. They begin saving heifers for breeding and not culling cow herds as much as usual. Then the supply of available beef is reduced and prices rise. By the time heifers are saved for breeding, are bred, calve, and the increased supply of feeder cattle is fed to processing weight, prices are no longer as high. In response to now lower prices, herd size is reduced by sending cows to be processed and sold, rather than saving, heifers. That increases the supply of beef, and cattle prices decline. When the supply of beef begins to decline, prices stabilize, then rise, and the cycle begins again.

Cattle numbers increased, with cyclical variation, throughout the twentieth century until 1975. The change in inventory from 1930 until 1975 represented an average increase of 2.6 percent per year. Since 1975, cattle numbers have declined by 34 million head, to the most recent low of 98 million head in 1989. This represents an average decline of 1.8 percent per year. The current cycle seems to suggest that cattle numbers may stabilize and cyclically vary around 100 million head, but only time will tell if further long-run liquidation of the industry will occur.

### Feeder Cattle Characteristics

Other important factors in marketing feeder cattle are the characteristics of the cattle themselves. The set of cattle generally referred to as feeder cattle (i.e., the feeder supply) is very diverse, due to differences in sex, weight, frame size, muscle development, finish, and health. In reality, this group of animals represents a continuum of stocker and feeder animals. Stocker animals are those that will be used in some type of forage-intensive growing program to produce feeder cattle. Feeder cattle are those cattle with sufficient weight/finish to enter feedlots and finish on high concentrate diets.

The distinction between stocker and feeder cattle is not a simple matter of age or weight. While it is obvious that lightweight calves are stockers and heavyweight yearlings are feeders, animals in the middle of the range may go either way, depending on location, time of year,

animal type, and a variety of market factors. As a general rule, animals over 600 lbs., especially if the animal is reasonably fleshy, will be considered feeders. Thinner and lighter animals will likely enter some sort of grazing/backgrounding program before going to a feedlot for finishing.

Geographic differences in production environments, production practices, prevalence of cattle types, and other differences result in different market conditions and marketing practices in various locations. Regions of the country have developed their own jargon (for example, Okie 1 and Okie 2), despite the USDA grades that have been developed (USDA Medium 1, Medium 2, etc.). Characteristics of feeder cattle affect prices and demand for those cattle. For example, some feedlots specialize in feeding heifers, and lighter cattle are more in demand by feedlots in some areas of the U.S. than others.

### Marketing Challenge

Feeder cattle are diverse, and produced by relatively small, geographically dispersed cow herd owners. Calving is seasonal and reflects short and long term weather patterns throughout the U.S. Production is cyclic, consisting of 7-9 years of increasing cow herd numbers and 3-5 years of decreasing beef cow numbers.

Feeder cattle are bought by cattle feeders to be fed to processing weight. Cattle feeding operations are usually larger than cow-calf operations. Cattle feeding is more geographically concentrated than feeder cattle production, and cattle feeders demand a regular flow of feeder cattle into their lots. They demand different types of feeder cattle at different times and, like cow-calf producers, respond to high or low market prices in making feedlot placement decisions.

Sandwiched between the cow-calf and feedlot are stocker operations. Stocker operations take calves that are not big enough, old enough, or of sufficient quality to be feeder animals, and utilize forage to turn those animals into feeder cattle. The stocker industry provides considerable flexibility to the industry in distributing animal supplies over time, utilizing excess forage, and providing an economic balance between cattle, grain, and forage markets.

The marketing task or challenge is how to coordinate feeder cattle production and marketing with the demand for feeder cattle. Specific tasks include: (1) efficiently moving feeder cattle from cow-calf producing areas to stocker production and cattle feeding areas; (2) assembling small sale lots of feeder cattle from small scale cow-calf operations for efficient shipment to cattle feeders who demand much larger lots of cattle; (3) smoothing the seasonal marketing pattern with the less seasonal demand for feeder cattle placements; and (4) matching feeder cattle having specific characteristics (sex, weight, frame size, etc.) with the demand for those cattle.

### Vertical Coordination

Vertical coordination is the process of matching or coordinating the supply of feeder cattle with the demand for feeder

cattle. The word vertical refers to movement of a commodity like feeder cattle, which is an output of the production process (producing feeder cattle), from sellers to buyers. To feeder cattle buyers, feeder cattle are an input into fed cattle production.

Two broad distinctions can be made in coordination methods, (1) market coordination and (2) integrated coordination. Market coordination occurs primarily via the market pricing system. Integrated coordination refers to some form of administered or managed coordination outside the competitive-market pricing system. The most common example is vertical integration—the ownership or control of two or more adjacent production-marketing stages by a single firm or business (for example, a producer who owns a cow herd and feeds the calves to processing weight in his/her own feedlot).

### Marketing Methods

Market coordination dominates the movement of feeder cattle from cow-calf producers to cattle feeders. There is considerable evidence of vertical integration when stocker or growing operations are considered a separate production stage. In Oklahoma and elsewhere, the stocker enterprise is important. It provides marketing flexibility to cow-calf producers who can retain ownership of stocker/feeder cattle rather than selling them at weaning.

Research suggests more profits are possible at times if cow-calf producers can also have a stocker enterprise. To some, producers are vertically integrated if they raise calves and graze them on wheat pasture over the winter or on grass over the summer. Similarly, cattle feeders are vertically integrated if they buy stocker cattle and graze them over the winter on wheat pasture or over the summer on grass.

Even considering the extent of cow-calf-stocker integration and stocker-feedlot integration, the majority of the total feeder cattle supply is coordinated with demand by market prices. Many times feeder cattle are bought and sold two or more times between the cow-calf producer and the cattle feeder.

Primary marketing methods (coordination methods) include: auction markets; satellite video auctions; order buyers and sellers; livestock dealers; and direct sales between individual buyers and sellers (either spot or contract sales). Each of the various marketing methods has

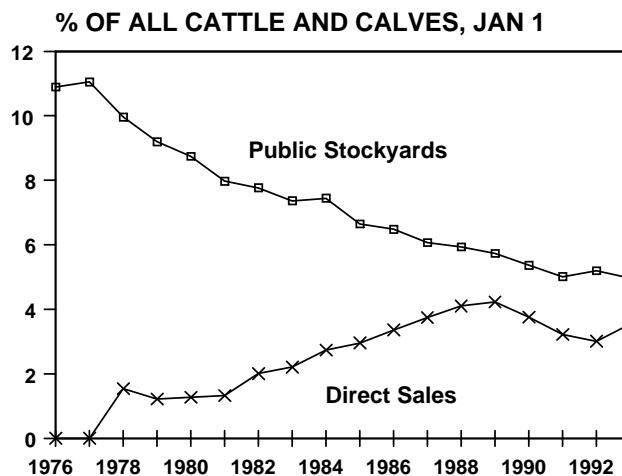


Figure 4. Changes in Feeder Cattle Marketing.

advantages in terms of coordinating supply with demand.

Significant changes have occurred in feeder cattle marketing institutions in the past couple decades. The number of cattle that trade through public stockyards, or auctions, has declined by about fifty percent since 1978 (Figure 4). Conversely, confirmed direct sales of feeder cattle have about doubled over the same period. Although publicly-reported data is not available, satellite video auctions have captured a significant share of feeder cattle markets.

### Summary

Beef cow numbers in the United States have declined significantly since the mid 1970s. Feeder cattle production is still widely distributed across the nation. However, although the majority of beef calves are produced in the western half of the U.S., relative shares of the beef cow total have increased in the southeastern and Appalachian regions.

Marketing patterns and institutions vary geographically, often because of associated production differences. Non-price coordination is used more frequently, including contracting and retained ownership. Marketing methods have also changed in recent years with fewer cattle traded through public auctions, and more cattle traded directly and through satellite video auctions.

Authors:

Derrell S. Peel, Ag Economist, Oklahoma State University  
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