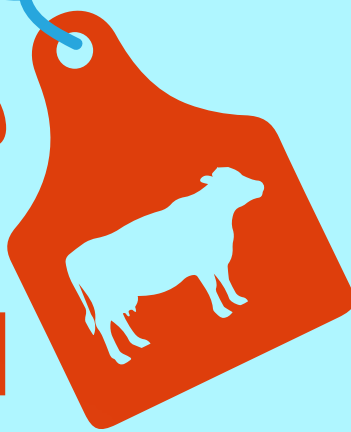


# TEXAS FARM BUREAU'S BE AG SMART!

# BEEF CONNECTION



*Be Ag Smart! The Beef Connection* has been developed and produced by Texas Farm Bureau Agriculture in the Classroom

P.O. Box 2689  
7420 Fish Pond Rd.  
Waco, TX 76710

Teachers—For lesson plans, videos and other resources for your classroom, go to [texasfarmbureau.org/aitc](http://texasfarmbureau.org/aitc)

## FORT WORTH STOCKYARDS AND CATTLE DRIVES

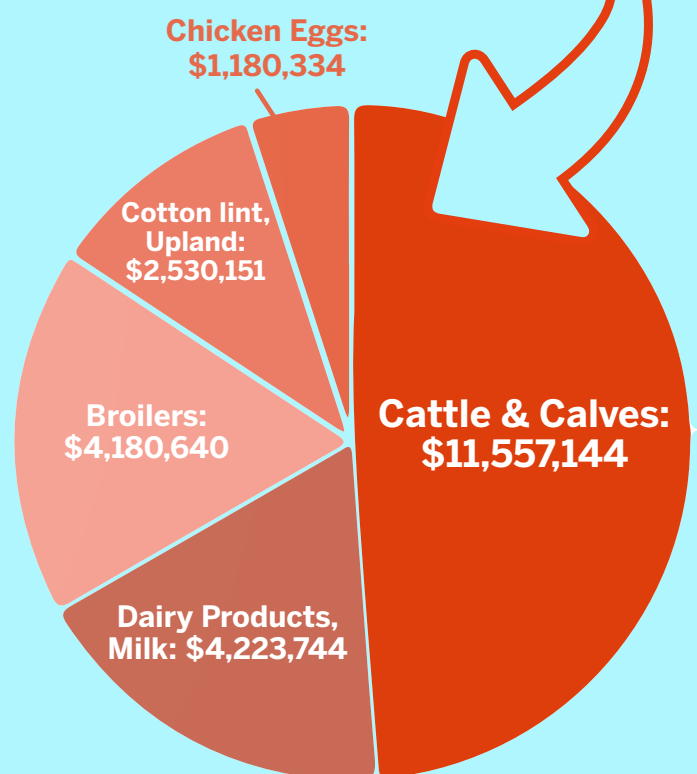
Texas is famous for the iconic cowboy way of life. Due to the abundance of cattle in Texas in the 1800s, they were only worth a dollar or two. The northern and eastern states were demanding beef and would pay up to \$20, much more than in Texas. Ranchers wanted higher prices, but the cattle had to be delivered to these states. This need created cattle drives.

The two most famous Texas cattle drives are the Chisholm Trail and the Goodnight-Loving Trail. These trails first started in 1866 to take cattle to Kansas and Colorado, where there were railroads to ship the cattle further to buyers who would pay a higher price.

The Fort Worth Stockyards are also iconic to Texas cattlemen. Fort Worth was the last major stop for those following the Chisholm Trail. They could rest and gather supplies before leaving Texas. Between 1866 and 1890, more than 4 million head of cattle were trailed through Fort Worth, giving it the nickname "Cowtown."

In 1876, the railroad arrived at Fort Worth. Cattle were now driven straight to Fort Worth to be shipped by railroad to northern and eastern states to be sold at higher prices.

## BEEF CATTLE PRODUCTION REPRESENTS THE LARGEST SINGLE SEGMENT OF TEXAS AGRICULTURE.



## VACCINES



Ranchers care about their cattle. They monitor the cows to make sure they are getting enough feed and they are not sick. If any of the animals are ill, they are observed by the rancher and veterinarian. Together, they decide how to treat the animal. It will only be given just what it needs to get better. By giving their cattle proper care, nutrition and disease prevention, antibiotic usage decreases.

## CATTLE BREEDS

Worldwide, there are more than 250 breeds of cattle. Over 60 of these breeds are present in the United States. However, a relatively small number of breeds (less than 20) are used for commercial beef production. Some of those breeds are:



**ANGUS**

Imported from Scotland in 1873



**BEEFMASTER**

Developed in early 1930s in Texas  
Brahman-Hereford-Shorthorn cross



**BRAHMAN**

Imported from India in 1854



**BRANGUS**

Developed in 1932 in U.S.  
Angus-Brahman cross



**HEREFORD**

Imported from England in 1817



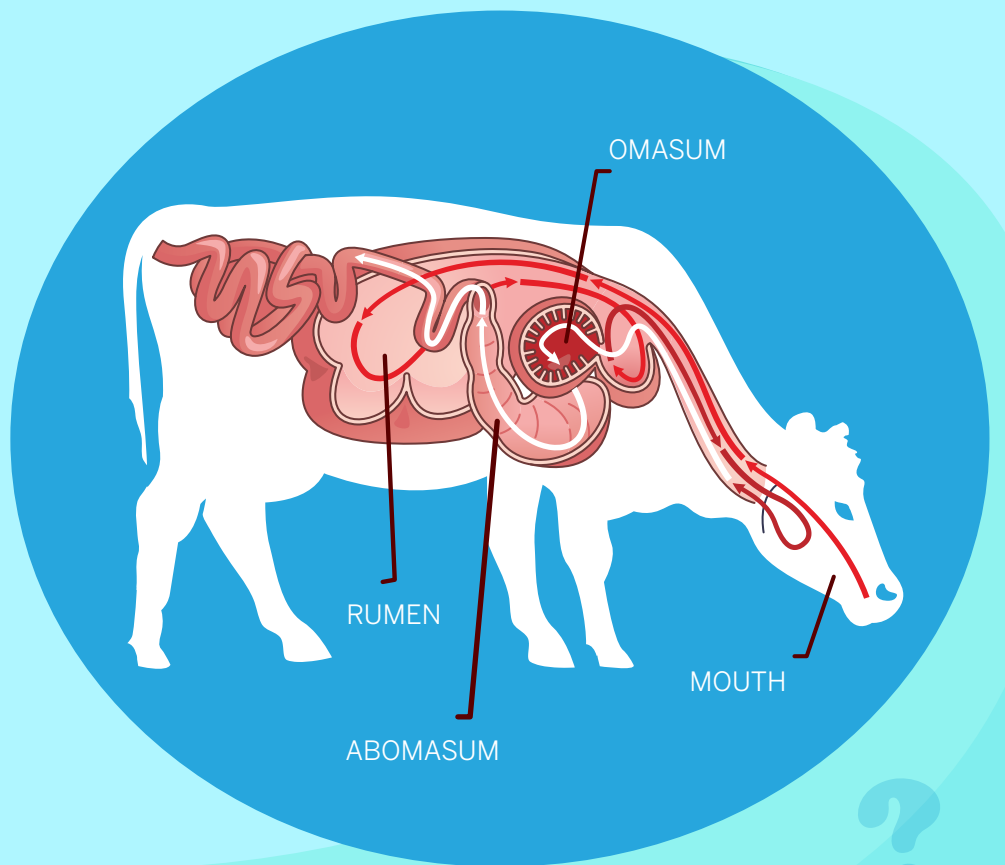
**CHAROLAIS**

Imported from France in 1936

# WHAT DOES “CHEW THEIR CUD” MEAN?

Cattle are ruminant animals. They have a four-chamber stomach, and every part of the stomach has a different function. Before the food can pass to certain sections, it must be rechewed.

- 1** Cows swallow food.
- 2** The food first enters the biggest stomach compartment, the **rumen**. Here, the food is mixed with bacteria to break down into smaller pieces. This process is called fermentation.
- 3** Next, it moves on to the next compartment, the **reticulum**. Here, the nutrients from the food are absorbed into the bloodstream.
- 4** The cow now burps up a small amount of food (cud) to chew again.
- 5** After chewing her cud, she swallows again and her cud goes into the third and fourth stomach compartments, the **omasum** and **abomasum**, where additional digestion occurs and more nutrients are absorbed into the bloodstream.



## GRASS FED AND GRAIN FINISHED. WHAT DO THESE WORDS MEAN?

Production practices are the ways in which crops are grown and livestock are raised. But what do all these words mean? Read along to learn!

### GRASS FED

Grass fed means that animal has only been raised on grass and forage (such as grass hay) for the majority of the animal's life. An animal can be considered a grass-fed animal if it has been 50% grass fed.

### GRAIN FINISHED

All beef animals spend most of their lives eating grasses and forage, but a grain-finished beef animal is one that consumes a balanced diet of ingredients such as grains, cotton seed, sugar beets, and more.



## READING A BRAND

- |   |            |    |                  |
|---|------------|----|------------------|
| R | “R”        | ⌢R | Quarter Circle R |
| R | Tumbling R | ⌢R | Half Diamond R   |
| R | Lazy R     | ⌢R | Rafter R         |
| R | Reverse R  | —R | Bar R            |
| R | Walking R  | Ⓡ  | Circle R         |
| R | Flying R   | ⬠R | Diamond R        |
| R | Running R  | ⓂR | Box R            |

### Name the Brand

1. Ⓞ \_\_\_\_\_
2. Ⓚ \_\_\_\_\_
3. Ⓜ \_\_\_\_\_
4. Ⓜ \_\_\_\_\_
5. Ⓜ \_\_\_\_\_



THE FIRST CHEESEBURGER WAS SERVED IN A RESTAURANT IN 1924

# MORE THAN BEEF



Cattle provide us with many products aside from just the beef that we eat. In sports, the leather we use to make products like footballs, baseballs, and volleyballs comes from the hide of a beef cow. In the automobile industry, stearic acid is used to make the rubber in a tire hold its shape. Stearic acid is a byproduct of animal fat. Other byproducts used in the automobile industry include antifreeze, car polish, and wax.

## BEEF LIFE CYCLE

**WHAT DO BEEF EAT**  
ANSWER KEY  
1: Corn 2: Cotton  
3: Wheat 4: Alfalfa

**WORD SEARCH ANSWER KEY**  
C B E L T S Y V T S P W G C O  
R R H O E U C K H H O A U H M  
Y X A V W E A O L L T G R C A  
N M O X G R E L L F O I Y E E  
T L F B O P B A N D A G E S R C  
S G O E D O N M G K S T O O B C  
S E O L T E H S C I T S A L P H  
M E L T S A N T I F R E E Z E  
D S M R S H S L L A B T O O E W I  
H N A I Z P E I C A N D L E S I I  
X M Z F C B A S E B A L L S N  
P A S T A N T R S R T N T A R G  
L I R E S I L D S R U H W C I G G  
T I M E K A Q E B E P C T O U M  
D Q H I S C I T E M S O C Y F M

**1 COW-CALF RANCH:**  
Cows and young cows, called heifers, give birth to baby cows, called calves. This happens once a year. Calves drink milk from their mothers the first few months of their lives.

**4 FEEDYARD / CATTLE FINISHING:**  
Most cattle then move to feedyards. They spend three to five months at the feedyard. At the feedyard, cattle do not graze on pasture. Instead, they are given a balanced, nutritious diet of grasses, corn plant silage and hay. They also eat grains like corn and wheat. Some cattle stay on pasture for their entire lives. The meat from these cattle is called grass-fed or grass-finished.

**2 WEANING:**  
Calves are weaned, or kept from their mothers, when they are about eight months old and weigh about 500 pounds.

**5 PACKING PLANT:**  
Cattle are harvested in packing plants where workers break down the carcasses, or meat, into popular beef cuts. The process of harvesting beef is done so the cattle are treated in an approved way and the food is produced safely.

**3 STOCKERS & BACKGROUNDERS:**  
Men and women called stockers or backgrounders then buy calves after they are weaned. The calves are placed in a new pasture with other calves their age. The calves grow as they turn grass, hay, and grain into muscle and fat.

**6 FOOD SERVICE & RETAIL:**  
Beef moves from the packing plant to other processing facilities that send individual steaks, roasts, and other cuts to grocery stores and restaurants. About 90% of the beef raised in the United States is eaten in the United States.

## ANIMAL IDENTIFICATION



Animal identification allows ranchers the ability to observe each animal very closely and to keep records on an animal's birthday, mother, father, growth, weight gain, health history, offspring, and even how much feed they are eating.

Tags can hold the owner's name, telephone number, and the ranch name that the animal belongs to.

Identification can be found on an ear tag, which is a tag that is inserted into the animal's ear kind of like an earring. There are also tags with electronic pieces. These are called electronic identification tags (EID). The rancher can scan the EID tag to transfer the ID to a computer.

## WHAT'S IN A NAME?



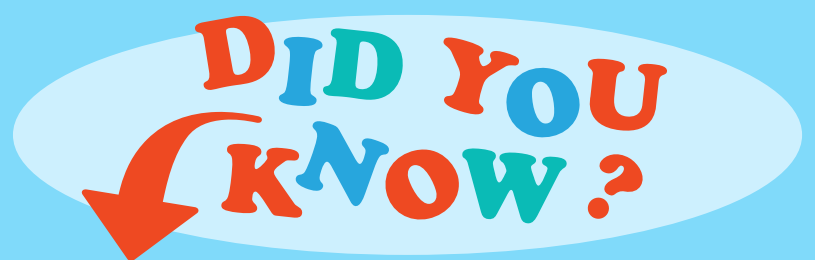
**COW:** female beef animal that has had a calf

**HEIFER:** female beef animal that has not had a calf

**BULL:** male beef animal used to breed cows and heifers

**STEER:** male beef animal that cannot reproduce

**CALF:** young beef animal



Cows have **32 teeth**, just like humans, but do not have any top front teeth!

Cattle chew **50 times** per minute.

They can drink between **30 to 50** gallons of water a day—that's a bathtub full!

# WHAT DO BEEF CATTLE EAT?

It is important for cattle to consume a diet that meets their nutritional needs. They mostly eat a combination of grasses and grains, but the amounts of each often depend on the stage of life that they are in. For example, a cow that is milking a calf will have a diet that looks different than a heifer that has not yet had a calf.

*The images of the commodities below are examples of what cattle often eat. Write the name of the crop below.*



Answer key on page three

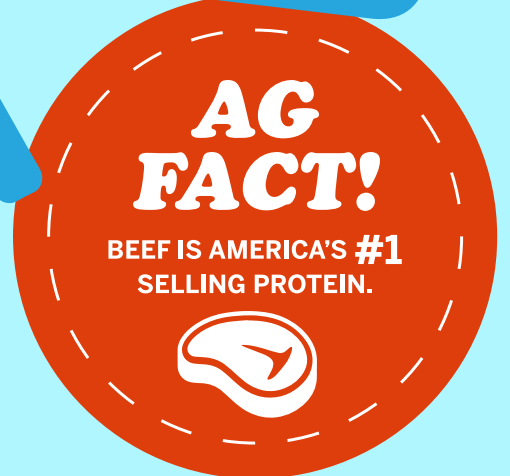
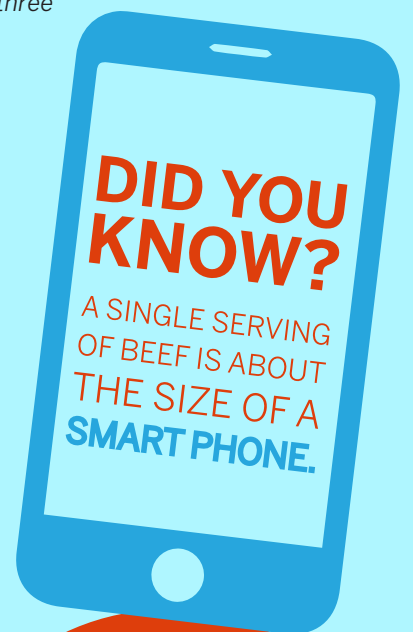
## BEEF NUTRITION

Beef is a very important component of our diet. Beef provides us with three essential nutrients: protein, iron and zinc. Protein builds, maintains and repairs body tissues. Iron helps red blood cells carry oxygen to body cells and tissues. Zinc helps with growth and maintaining the immune system. Beef also provides B-vitamins, which promote healthy skin, a healthy nervous system, and are important for digestion and metabolism. One 3-ounce serving of lean beef provides 50% of the daily value of our need for protein.

- ANTIFREEZE
- BANDAGES
- BASEBALLS
- BELTS
- BOOTS
- CAKE MIX
- CANDLES
- CHEWING GUM
- COSMETICS
- CRAYONS
- CREAM
- DEODORANT
- FOOTBALLS
- GLOVES
- ICE CREAM
- MARSHMALLOW
- MEDICINES
- PAINT
- PAPER
- PASTA
- PLASTICS
- PURSES
- SHOE POLISH
- TIRES
- TOOTHPASTE

## WORD SEARCH

C	B	E	L	T	S	Y	I	T	S	P	W	G	C	O
R	R	H	O	E	U	C	N	H	H	O	A	U	H	M
Y	X	A	V	W	E	A	O	L	L	T	G	P	C	A
N	M	O	Y	C	R	E	E	L	F	O	I	Y	E	E
T	L	F	R	O	P	B	A	N	D	A	G	E	S	R
G	O	E	D	O	N	M	G	K	S	T	O	O	B	C
S	A	O	L	E	H	S	C	I	T	S	A	L	P	H
M	E	I	T	S	A	N	T	I	F	R	E	E	Z	E
D	S	N	R	H	S	L	L	A	B	T	O	O	F	W
H	N	A	I	Z	P	E	C	A	N	D	L	E	S	I
X	M	Z	F	C	B	A	S	E	B	A	L	L	S	N
P	A	S	T	A	I	R	S	R	T	N	I	A	P	G
T	I	R	E	S	L	D	S	T	U	H	W	C	I	G
X	I	M	E	K	A	C	E	B	E	P	C	T	O	U
D	Q	H	S	C	I	T	E	M	S	O	C	Y	F	M



Humans cannot digest grass but cattle can! Grazing animals more than doubles the area that food can be produced from by using land that isn't suitable for crop production.

Answer key on page three