


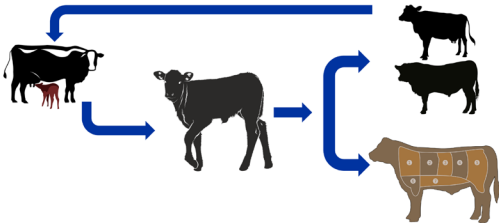

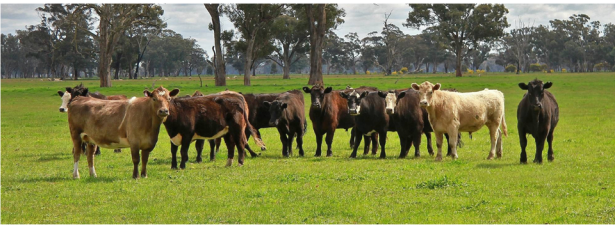



Slide	Notes
<div data-bbox="126 247 324 289">  SOUTH DAKOTA STATE UNIVERSITY EXTENSION  </div> <h2 data-bbox="134 317 443 411">Adopt-A-Cow: Beef</h2> <div data-bbox="134 464 339 520"> <b>Lesson 6</b>  <i>A Day Without Cows</i> </div> <div data-bbox="126 569 496 594"> <small>SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture. Learn more at <a href="http://sdstate.edu/eo">sdstate.edu/eo</a>. © 2020, South Dakota Board of Regents</small> </div> 	
<h3 data-bbox="155 659 388 690">Lesson 5 Review</h3>  <div data-bbox="118 961 329 993">  SOUTH DAKOTA STATE UNIVERSITY EXTENSION         </div> <div data-bbox="737 974 745 984">2</div>	<p><i>*This slide contains animations during slide show mode. These animations/mouse clicks are noted by a number in italicized parenthesis. *</i></p> <p>In Lesson 5, we learned about the life cycle of a beef animal. We learned that the life cycle looks based on whether it is a bull (boy) or heifer (girl) calf.</p> <ul style="list-style-type: none"> <li>(1) We learned that calves can grow up to go back into the herd to produce new calves.</li> <li>(2) Or they can be sent to the feedlot to build muscle for meat.</li> </ul> <p>We discussed that the nutrition needs vary depending on which of these paths an animal follows, and we made our own Total Mixed Rations.</p>
<h3 data-bbox="155 1115 688 1171">What would your life be like if there were no cows?</h3>  <div data-bbox="118 1430 329 1459">  SOUTH DAKOTA STATE UNIVERSITY EXTENSION         </div> <div data-bbox="737 1440 745 1451">3</div>	<p>Discuss with youth what they think their life would look like if there were no cattle. Guide the conversation using questions and statements like 'How do you know?' or 'Justify your answer.'</p>

Slide

Notes

### Card Sort



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Pass out byproduct cards to each group. Have the students spend approximately 10 minutes sorting the cards into categories based on similarities/relationships that make sense to them.

Have teams share what categories they created and what items they put into those categories.

Based on the categories that the teams share; conclusions can be drawn about what each of the items has in common. One thing that they might note – Some things are edible while others are inedible.

- Did any group put all the items into one category? Why, or why not?
- If all the items have one thing in common, could you guess what that would be? (They are all partially derived from something that comes from a cow).

### Byproducts

**Fats & Fatty Acids**

- Cosmetics
- Laundry Detergents
- Pet Foods
- Candles
- Crayons
- Soaps
- Perfumes
- Paint
- Chewing Gum
- Deodorant\*
- Insecticides\*
- Brake Fluid\*
- Antifreeze\*
- Shoe Polish\*
- Paint\*

**Gelatin from Bones**

- Jello
- Gummy Bears
- Medicine (soft capsules)
- Adhesive Bandages\*
- Glue\*
- Emery Boards\*

**Hair**

- Paint Brushes\*
- Felt\*

**Hooves & Horns**

- Piano Keys\*
- Pet Chews\*

**Hide**

- Luggage\*
- Clothing\*
- Gloves\*
- Wallets\*
- Boots\*
- Basketballs\*



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All the items on the cards are made from parts of a cow. These are considered byproducts, a secondary product made after the meat is harvested from the animal.

(1) Many of the items in the cards are made from the fat of the cow – like the cosmetics and crayons

(2) Other things like the Jello and Gummy Bears come from the gelatin that is found in cow bones.

(3) Other parts of the animal are used for things you might be familiar with, like leather for luggage and boots or hair for paint brushes

How many of these things do you think you might use daily? What might it look like if we didn't have cattle to help produce these items?

From this we can see that cows have a pretty big impact on our daily lives. Let's look at some of the numbers related to beef production.

### Favorite Ways to Eat Beef

	Hamburger	Steak	Brisket	Tacos	Spaghetti & Meatballs
Number of Votes					





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Poll the class to determine the students' favorite way to eat Beef (hamburger, steaks, brisket, other).

As a class (or small groups) determine the best type of graph for illustrating the data collected.

Share the graphs with the class and discuss the importance of graphs and charts in displaying information.

## Slide

## Notes

### Agriculture Economist



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One career in agriculture is an economist. His/her job is to collect data, create graphs and tables as well as interpret what that data tells us about the changes in the agricultural market. Ranchers utilize this data to make informed decisions about their cattle operations.

- Today we are going to look at some agriculture data to learn more about the impact that beef production has on us.
- Have students work in their small groups to complete the A Day Without Beef worksheets.

### Largest Cattle Producing States

State	Kansas	Missouri	Nebraska	Oklahoma	South Dakota	Texas
1,000 head of beef cows that have calved	1,264	1,840	1,637	1,922	1,502	4,115



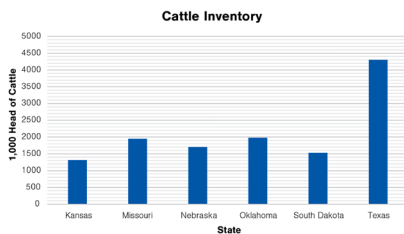
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Here is the number of cattle for the top cattle producing states in the U.S. Take a moment to create a bar graph of this data on your worksheet and answer the questions.

Data from January 1, 2024, USDA NASS Cattle 01/31/2024 (cornell.edu)

### Cattle Inventory



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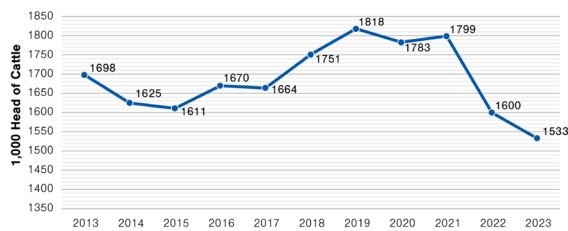
Where does South Dakota rank in beef cattle numbers?  
5th

Based on what we have learned about beef cattle production, what do you think makes the states in the graph good for producing beef cattle?

Open spaces with grasslands and fresh water sources

## Slide

### South Dakota Beef Cattle



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## Notes

1. Summarize the trends that you observe in the graph above.
2. What year did South Dakota stock the largest number of cattle? How many cattle were stocked that year?
3. Between what two years did the largest change occur? Did the number of cattle increase or decrease?

Many factors have impacted the changes in cattle inventory overtime.

In 2014-2015 cattle prices set records encouraging people to increase their herd size.

Then between 2021 and 2023 there is a large decline which can be largely attributed to drought that the state of South Dakota experienced. This drought decreased the amount of range available for summer grazing as well as the amount of forage available for hay to feed cattle over the winter. With less available feed for cattle, producers have had to reduce their herd size to maintain a healthy herd.

### Beef Careers

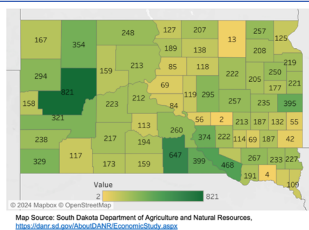


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What have we discovered so far today?

- Beef plays a large role in our daily lives. Many of the things we utilize every day are made from parts of a cow, meaning that even if we don't eat Beef we are impacted by the presence of cattle.
- We also learned that South Dakota is one of the largest beef producers in the nation.
- With so many cattle in our state, what do you think that means about the number of jobs in South Dakota related to Beef?

### South Dakota Cattle Production Jobs



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This map shows the number of cattle producing jobs in each county.

Can you identify which county we live in?

How does the number of jobs in our county compare to other counties in the state?

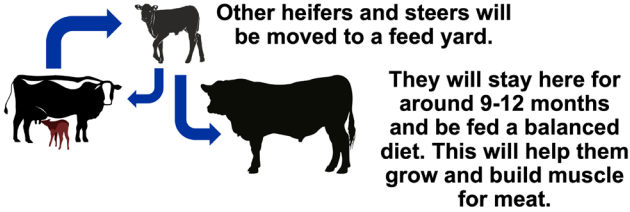



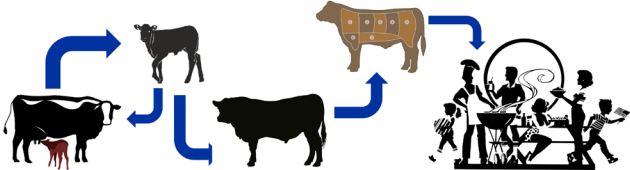

What counties have the largest number of jobs? What do you know about those counties? Why might they have the largest number of jobs?



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Slide	Notes
<p><b>Beef from Farm to Table</b></p>  <p>Other heifers and steers will be moved to a feed yard.</p> <p>They will stay here for around 9-12 months and be fed a balanced diet. This will help them grow and build muscle for meat.</p> <p> SOUTH DAKOTA STATE UNIVERSITY EXTENSION 17</p>	
<p><b>Beef from Farm to Table</b></p>  <p>Once cattle reach their market weight, they are sent to processing facilities. These facilities are inspected to ensure that animal welfare and food safety are present.</p> <p> SOUTH DAKOTA STATE UNIVERSITY EXTENSION 18</p>	
<p><b>Beef from Farm to Table</b></p>  <p>Once processed, beef is may go directly to consumers; but it also is shipped to grocery stores and restaurants all over the United States.</p> <p> SOUTH DAKOTA STATE UNIVERSITY EXTENSION 19</p>	

## Beef from Farm to Table: Careers





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Throughout a cow's life, it takes many people with different skills to get the beef from the ranch to your table.


- (1) The Rancher (Ranch Managers, Ranch Hand, Foreman) are the primary caregivers of the animals on the ranch. They make sure the animals have all their needs met and that they stay healthy. However, they may employ the help of other professionals.
- (2) They make work with Animal Breeders or others in similar professions like Bovine Embryologist and Artificial Insemination Specialist to ensure that their herd has the desired genetics.
- (3) If the animals get sick, the Rancher may get help from a Veterinarian.
- (4) If the rancher needs to move the cattle across the Missouri River or across state lines, a Brand Inspector will come and ensure that the cattle have the appropriate brands. A Brand inspector is also needed if the rancher sells the cattle.
- (5) Ranchers may employ truck drivers to help move cattle.
- (6) If a Rancher sells his cattle, they may take the cattle to a sale barn where an Auctioneer will auction the cattle off to the highest bidder.
- (7) Ranchers may work with Animal Nutritionists to make sure that the herd is having all its nutritional needs met.
- (8) Ranchers not only take care of their cattle, but they also take care of the land that their cattle live on. They work with Range Specialists to ensure that their land is cared for so that it produces nutritious forage for their livestock, but also can be a healthy ecosystem for other animals.
- (9) Cattle feed not only includes forages. It also includes other things like corn and soybeans, which are produced by a Farmer (Farm Managers, Farm Hand).
- (10) To produce the best crops possible, Farmers work with Agronomists.
- (11) The rancher may work with a feed salesman to get the additional feeds from the farmer.
- (12) When cattle are ready to be processed into meat, they are taken to a Butcher.
- (13) During the time meat is at the processing facility, it encounters a variety of people. Meat inspectors, Quality Assurance Technicians, and Food Safety Specialists ensure that the meat remains safe from contamination and that the processes follow regulations.
- (14) Meat graders evaluate the beef to determine how its tenderness, texture, and color so that it can properly be marketed.
- (15) Meat can then be sold to consumers. Some processing facilities sell directly to consumers, while others provide meat to grocery stores and restaurants.
- (16) Beef also impacts other careers outside of the pathway too. For example, Nutritionists educate people on the nutrition that beef provides.
- (17) Additionally, some athletes consume beef because it is a great source of protein, iron, and other vitamins and minerals.



Slide	Notes
<p data-bbox="155 163 686 226"><b>What would your life be like if there were no cows?</b></p>  <div data-bbox="121 478 329 506">  SOUTH DAKOTA STATE UNIVERSITY EXTENSION </div> <div data-bbox="735 493 743 501">21</div>	<p data-bbox="784 142 1466 237">Think back to the beginning of the lesson, based on what we have discussed today how does your answer change? What would your life be like if there were no cows?</p>





Slide	Notes
<div data-bbox="152 174 329 205" data-label="Section-Header"> <h2>Thank Moo!</h2> </div> <div data-bbox="115 245 758 434" data-label="Image"> </div> <div data-bbox="115 474 329 501" data-label="Page-Footer"> <p> SOUTH DAKOTA STATE UNIVERSITY EXTENSION</p> </div> <div data-bbox="732 487 743 497" data-label="Page-Footer"> <p>22</p> </div>	<p><i>*This slide contains animations during slide show mode. These animations/mouse clicks are noted by a number in italicized parenthesis. *</i></p> <p>Through the Adopt-A-Cow program, we have explored many topics and learned a lot about beef production.</p> <p>What are some of the things you remember from Lesson 1: Beef's Impact on South Dakota?</p> <p>(1) In this lesson we learned about how beef impacted the formation of South Dakota. We discussed the end of the open range, and you created brands for your ranches.</p> <p>What are some of the things you remember from Lesson 2: Building Your Herd?</p> <p>(2) In this lesson we not only met our adopted calf, but we also learned how traits are passed along to babies from their parents. During this lesson our ranches used dice to predict what the calves on their operation look like.</p> <p>What are some of the things you remember from Lesson 3: Calf Health?</p> <p>(3) In this lesson we learned about how ranchers care for their livestock. We were able to observe how a vet does a newborn calf check and learned about the role that vaccinations play in keeping calves healthy. We learned about the role of ear tags for calf identification and made tags for our ranches.</p> <p>What are some of the things you remember from Lesson 4: Energy Transfer?</p> <p>(4) In this lesson we learned about the unique ability of a cow's stomach to digest grass and the role this plays in our diets. We discussed energy transfer from the sun, to grass, to cattle, to us.</p> <p>What are some of the things you remember from Lesson 5: Beef Life Cycle?</p> <p>(5) In Lesson 5, we learned about the life cycle of a beef animal. We learned that the life cycle looks based on whether it is a bull (boy) or heifer (girl) calf. We learned that calves can grow up to go back into the herd to produce new calves. Or they can be sent to the feedlot to build muscle for meat.</p>