



NEBRASKA STATE GEOINQUIRIES

WHERE IS THE BEEF?

Summary: With plenty of wide open land for pastures, access to water, and good soil for growing feed, Nebraska is an ideal state for raising cattle. Both for dairy farming, and for raising beef cattle, Nebraska's heritage as a beef state still gets overshadowed by the state's reputation as the Cornhusker state. Where in Nebraska are Nebraska's cattle and what infrastructure is there to support ranching and dairies?

Nebraska State Social Studies Standards

This activity has been designed to meet the following Nebraska State Standards...

Primary: SS HS.3.1.b Analyze and explain changes in spatial patterns as a result of the interactions among human and physical processes.	Secondary: SS HS.2.1.a Make decisions by systematically considering alternatives and consequences through the use of cost benefit analysis.
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Lesson Objectives:

By completing this activity students will have the ability to...

- *examine trends in the location of different agricultural practices in Nebraska by comparing the distribution of dairy farming and cattle ranching in the state.*
- *use geographic information to make an informed decision by using information from the maps to make a recommendation on the placement of a beef or dairy processing center*

URL: <https://arcg.is/1n9b8P>

Activity:

Follow these steps to complete the Geoinquiry

 = A Mapping function students will need to complete

 = A piece of information or background students will need to know

 = A question, or set of questions, for students to answer

Ask a Question: *How is agriculture connected to location?*

 Click the link above to open the web map

 Take a minute to familiarize yourself with the functions of the map by clicking and dragging on the map to pan around, and using the buttons in the top left corner of the map to zoom in and out.

 Based on what you already know, what makes the Great Plains so ideal for raising cattle? [*Mild climate, open grasslands, transportation routes to rest of country*]

 Knowing that the Great Plains are ideal for raising cattle, besides Nebraska, which other states would you expect to have large herds of cattle? [The Dakotas, Montana, Wyoming, Colorado, Kansas, Oklahoma, New Mexico, & Texas]

 What could be some useful information regarding the cattle industries in Nebraska? [Possible answers include: where in Nebraska are different types of cattle located? How is the location of



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cattle in Nebraska connected to the location of people? Which parts of the state have the most cattle and why there?

Collect New Information: Where are Nebraska's beef cattle located?

- 🌐 In the menu bar on the left side of the map, turn off the Great Plains layer by left-clicking on the Content option and then left-clicking on the checkbox next to the Great Plains Area layer
- 🌐 Zoom into Nebraska by using the + or - in the top left corner of your map or the roller function of your cursor until the state fills your screen
- 🌐 Turn on the *Number of Beef Cattle by County (2020)* Layer
- 🌐 Open up the Legend by left-clicking on the Legend option in the menu bar on the left side of the map
 - ? What color signifies the counties with the most beef cattle? [*Dark Blue*] Which color signifies the counties with the least? [yellow]
- 🌐 Perform a table query using the instructions in the Necessary Skills section below to identify the county with the least number of cattle [*Douglas: 2,300*] and the county with the most cattle [*Custer: 330,000*]

Analyze for Trends and Patterns: How is the location of different agricultural practices connected to other factors?

- 📖 Read about the Von Thunen Model of Agricultural Land Use by visiting the resource using the link in the Sources and Additional Readings Section below. Specifically focus on the model showing where different agricultural practices are located.
 - ? Based on the model what is the main factor determining the location of each agricultural practice? [*Cost of transportation/maximizing profits*]
- 🌐 Back in the map turn on the Licensed Dairy Farms by County (2014) layer in the Content menu on the left side of the map
- 🌐 Take a minute to explore the new layer by clicking on some of the different symbols that have now been added to the map
 - ? Compare the location of Nebraska's Dairy farms and Beef Cattle (Ranching) and evaluate how closely their location corresponds to the Von Thunen Model (Assuming the Omaha/Lincoln are the main urban centers for Nebraska) [*Somewhat, most dairies are located closer to the urban centers while ranching takes place further out - same as in the model*]

Share what You Have Found: Why are Nebraska's cattle industries located where they are?

- ? Use the other layers provided in the contents menu to come up with a list of potential explanations for the location of Nebraska's dairies. [*Answers may include: They are primarily located next to rail lines for easy transportation to urban centers, better environmental conditions for dairy cattle in eastern Nebraska, more profitable to use land for beef cattle further west, need to have easier access to urban centers to prevent waste*]
- ? Come up with some potential explanations for the reasoning behind the location of Nebraska's beef cattle based on information provided in the map layers. [*Answers may include:*



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Ranchers can transport cattle further to reach urban centers and still be profitable, ranching needs more space so it takes place far from cities where land prices are less expensive]

? Share your thinking with a partner and participate on a class discussion to see what others were thinking. (Note: hybrid students can be put into breakout rooms or online discussions using discussion boards or chat options depending on learning management systems)

Develop an Action Plan: How can you use geographic information to plan for improvements?

🌐 In the map Content menu make sure only the *Number of Beef Cattle by County (2020)*, *Nebraska Railroads*, *Nebraska Cities (Population more than 10,000)*, and *Nebraska State Outline* layers are on.

? Use information from the available layers to decide which city you think that a new beef cattle processing facility should go. Your reasoning should include information connected to as many different layers as possible. [Answers will vary, possible explanations should include connections to size of cities and available labor, access to existing railroads for transportation, proximity to main cattle ranching counties in Nebraska]

? Discuss your thinking and defend your reasoning in a paragraph with specific connections to the information included on the map layers

Necessary Skill(s):

*Use these directions to help you complete the skill in the **Collect New Information** section*

Performing a Table Query

- In the Contents menu on the left side of the map identify the layer you want to perform the table query on
- Hover your mouse over the layer and then left-click on the Show Table option to bring up the table
- Identify the column you want to sort by and then left click the column heading to Sort by Ascending (lowest to highest) or Sort by Descending (highest to lowest)
 - **For this activity you will be performing the query on the Number_of_Cattle_Including_Calv column**
- You can click on any of the table entries to highlight the location on the map
- Close the table by clicking on the X in the top right corner of the table

Sources and Additional Readings:

Be sure to check out these resources to learn more

- *Von Thunen Model of Agricultural Land Use*, Geography Realm,
<https://www.geographyrealm.com/von-thunen-model-of-agricultural-land-use/>



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- USDA's National Agricultural Statistics Service (2020), US Department of Agriculture, https://www.nass.usda.gov/Statistics_by_State/Nebraska/Publications/County_Estimates/index.php
- Dairy Growth and Development Study (2014), Nebraska Department of Agriculture, <https://nda.nebraska.gov/promotion/dairysurvey.pdf>

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