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## Economic Geography

- How do people earn a living?
  - Physical environment
  - Cultural conditions
  - Technology
  - Politics/economic system
- How does that vary by place?
- How does it connect places?

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## Economic Geography

- **Primary** economic activity
  - Closest contact with natural resources
  - Generally, lowest income
- **Secondary:** value added (manufacturing)
- **Tertiary:** services for primary or secondary
- **Quaternary:** information-based services

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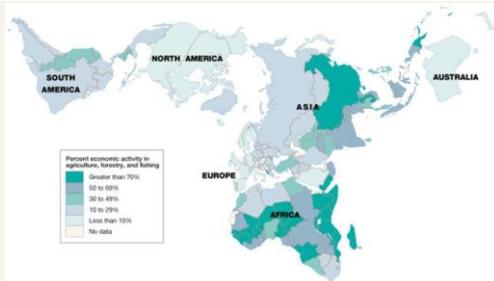
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## Economic Geography




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## Primary Economic Activity

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## Primary Economic Geography

- "Gathering" industries
  - Fishing
  - Forestry
- Commercial vs. subsistence
- Potentially renewable resources
- Maximum sustainable yield

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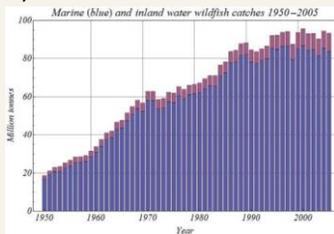
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## Fisheries

- Protein for 1 billion people
- Inland 6%, aquaculture 23%, oceans 71%
- Tragedy of the commons



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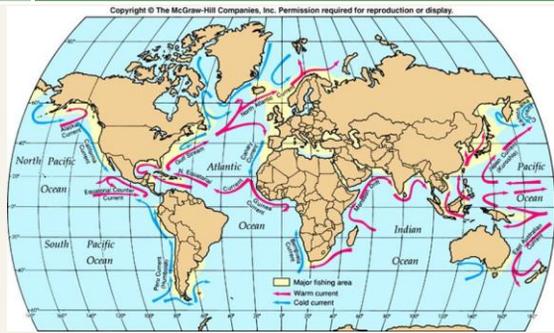
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## Fisheries




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## Forestry

- Commercial use or fuel wood
- Coniferous (softwood) for paper, lumber
- Deciduous (hardwood) for furniture, etc.
- Tropical hardwood for fuel wood, furniture
  - And clearing land

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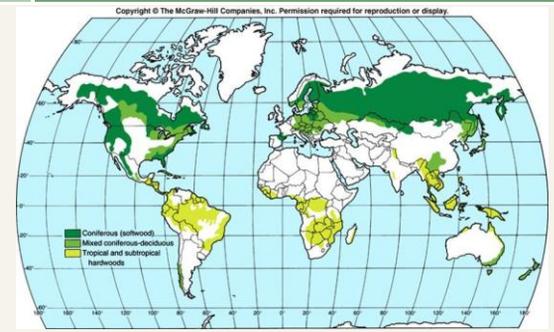
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## Forestry




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### Primary Economic Activity

- "The primary sector of industry" generally involves changing natural resources into primary products
- Most products from this sector are considered raw materials for other industries

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### Primary Economic Activity

- Major businesses in this sector include agriculture, agribusiness, fishing, forestry and all mining and quarrying industries
- Nonrenewable resources
- Huge capital investment: then what?

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### Resource-based Economies

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## Resource-based Economies

- ❑ Multiple scales (from countries to towns)
- ❑ Dependent on one commodity
- ❑ Volatile commodity prices
- ❑ Boom-and-bust cycles
- ❑ Need value-added activity

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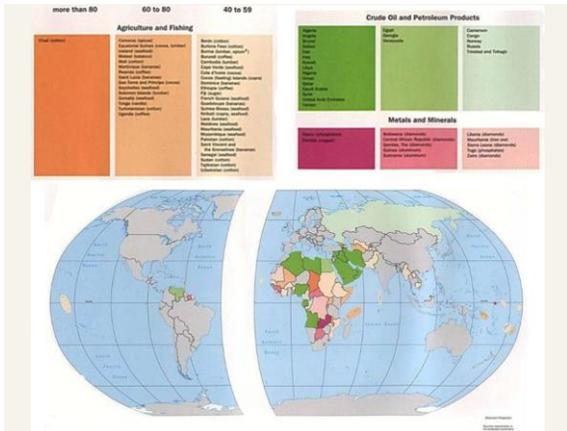
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## Example: Antofagasta, Chile

- ❑ Founded in 19th century for nitrate mining
- ❑ Wealth led to Chile's first banks
- ❑ Chemical substitutes by 1930s
- ❑ Port for Bolivia




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## Example: Antofagasta, Chile

- ❑ New technology made copper mining possible
- ❑ Nationalized in 1970s
- ❑ 1990 boom when reopened to private investment
- ❑ Today: 9% of GDP, 33% of world copper
- ❑ But: foreign investment, no value-added




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## Agriculture

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## History of Agriculture

- ❑ Hunter-Gatherers
- ❑ Neolithic Revolution
  - ❑ Domestication of Plants and Animals
  - ❑ Diffusion of Agriculture
- ❑ Location of agricultural hearths
  - ❑ Vegetative planting
  - ❑ Seed agriculture

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## History of Agriculture

- Agricultural Industrialization
- The “Green Revolution”
  - Hybrids, scientific application of fertilizer, pesticide, and water
- Modern Agribusiness
- Genetic Engineering of Crops

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## Neolithic Revolution

- Primary effects:
  - Urbanization
  - Social stratification
  - Occupational specialization
  - Increased population densities
- Secondary effects:
  - Endemic diseases
  - Famine
  - Expansionism

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## Agriculture

- About 1/3 of Earth's land
- Three categories
  - Subsistence
  - Traditional
  - Commercial

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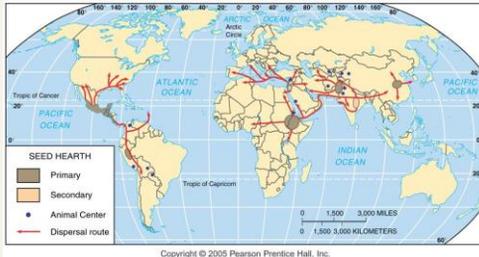
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## Seed Agriculture Hearths



Seed agriculture also originated in several hearths and diffused from those elsewhere.

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## Subsistence Agriculture

- ❑ Subsistence agriculture is self-sufficient farming in which farmers grow only enough food to feed the family, pay taxes or feudal dues
- ❑ The typical subsistence farm has a range of crops and animals needed by the family to eat during the year

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## Subsistence Agriculture

- ❑ Planting decisions are made with an eye towards what the family will need during the coming year, rather than market prices



cocoyam farmer from Cameroon

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## Commercial Agriculture

- ❑ The production of crops for sale, crops intended for widespread distribution (e.g. supermarkets), and any non-food crops such as cotton and tobacco.
- ❑ Commercial agriculture includes livestock production and livestock grazing.
- ❑ Maximizing profit, not food security
- ❑ Specialization by location
- ❑ Off-farm sales
- ❑ Interdependence of producers and consumers

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## Classifying Agricultural Regions

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>❑ Subsistence Agriculture<ul style="list-style-type: none"><li>❑ Shifting Cultivation</li><li>❑ Pastoral Nomadism</li><li>❑ Intensive Subsistence Agriculture</li></ul></li></ul> | <ul style="list-style-type: none"><li>❑ Commercial Agriculture<ul style="list-style-type: none"><li>❑ Mixed Crop and Livestock Farming</li><li>❑ Dairy Farming</li><li>❑ Grain Farming</li><li>❑ Livestock Ranching</li><li>❑ Mediterranean Agriculture</li><li>❑ Truck Farming</li></ul></li></ul> |
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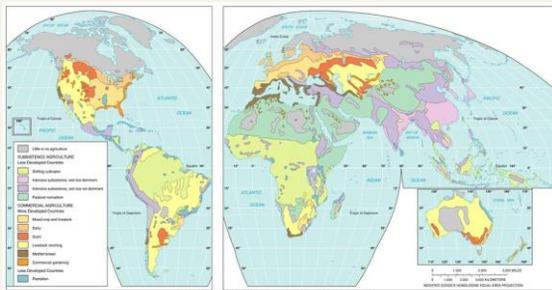
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## World Agriculture Regions



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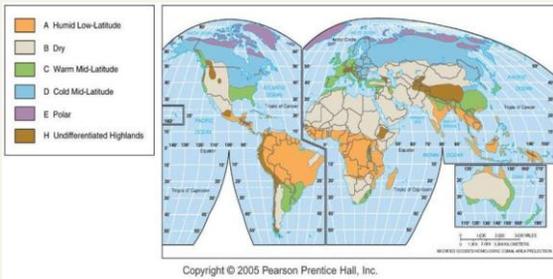
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## World Climate Regions



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## Pastoral Nomadism

- The breeding and herding of domesticated animals for subsistence
  - **Where:** arid and semi-arid areas of N. Africa, Middle East, Central Asia
  - **Animals:** Camel, Goats, Sheep, Cattle
  - **Transhumance:** seasonal migrations from highlands to lowlands
  - Most nomads are being pressured into sedentary life as land is used for agriculture or mining

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## Pastoral Nomadism



Bedouin Shepherd



Somali Nomad and Tent

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## Intensive Subsistence Agriculture

- Wet Rice Dominant
  - Where: S.E. Asia, E. India, S.E. China
  - Very labor intensive production of rice, including transfer to sawah, or paddies
  - Most important source of food in Asia
  - grown on flat, or terraced land
  - Double cropping is used in warm winter areas of S. China and Taiwan

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## Intensive Subsistence Agriculture



The Fields of Bali



Thai Rice Farmers

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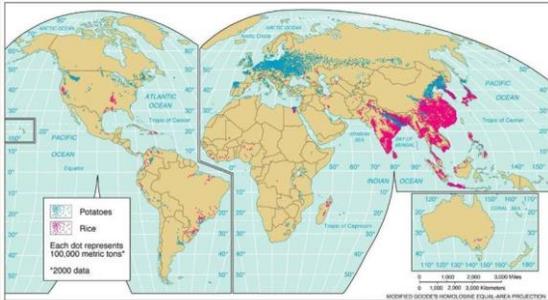
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## Potatoes & Rice Production



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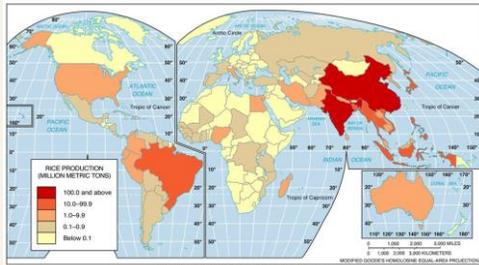
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## World Rice Production



Asian farmers grow over 90% of the world's rice. India and China alone account for over half of world rice production

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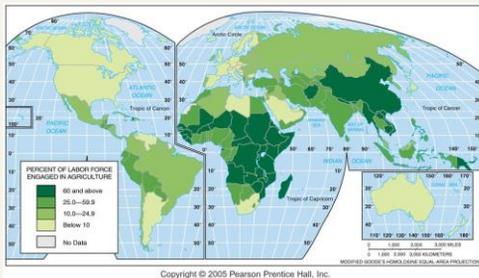
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## Labor Force in Agriculture



A large proportion of workers in most LDCs are in agriculture, while only a small percentage of workers in MDCs are engaged in agriculture.

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## Commercial Agriculture

- Value-Added
  - Very little of the value of most commercial products comes from the raw materials
  - "adding value" is the key to high profit margins




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## Mixed Crop and Livestock Farming

- ❑ Where: Ohio to Dakotas, centered on Iowa; much of Europe from France to Russia
  - ❑ Crops: corn (most common), soybeans
  - ❑ In U.S. 80% of product fed to pigs and cattle
- ❑ Highly inefficient use of natural resources
  - ❑ Pounds of grain to make 1 lb. beef: 10
  - ❑ Gallons of water to make 1 lb. wheat: 25
  - ❑ Gallons of water to make 1 lb. beef: 2500

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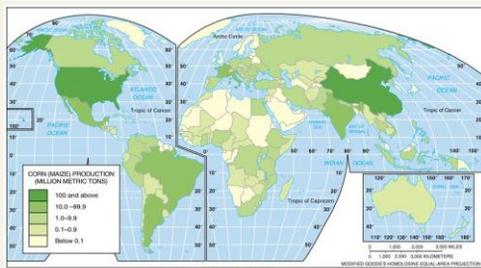
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## World Corn (Maize) Production



The U.S. and China are the leading producers of corn (maize) in the world. Much of the corn in both countries is used for animal feed.

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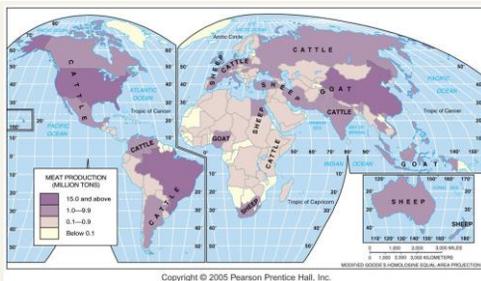
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## Meat Production on Ranches



Cattle, sheep, and goats are the main meat animals raised on ranches.

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## Dairy Farming

- Where – near urban areas in N.E. United States, Southeast Canada, N.W. Europe
- Over 90% of cow's milk is produced in developed countries
- Value is added as cheese, yogurt, etc.




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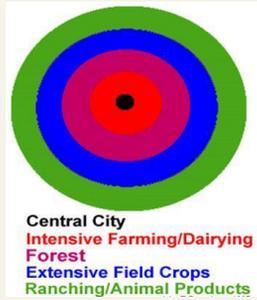
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## Dairy Farming

- **Locational Theory:** butter and cheese more common than milk with increasing distance from cities and in West.
- **Milkshed:** historically defined by spoilage threat; refrigerated trucks changed this.




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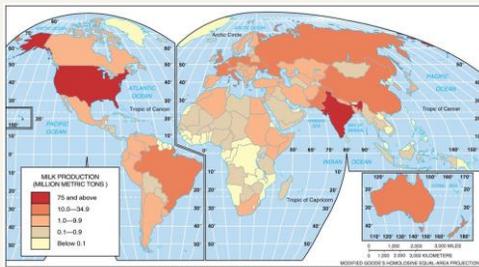
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## World Milk Production



Milk production reflects wealth, culture, and environment. It is usually high in MDCs, especially production per capita, and varies considerably in LDCs.

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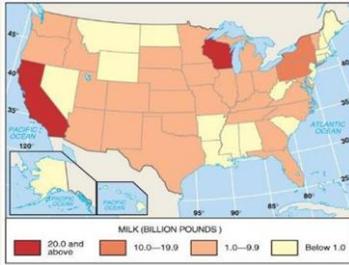
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## Dairy Production in the U.S.

- Milk production is widely dispersed because of its perishability




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## Dairy Production in the U.S.

- Cheese production is far more concentrated.




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## Grain Farming

- **Where:** worldwide, but U.S. and Russia predominant
- **Crops:** wheat
  - Winter wheat: Kansas, Colorado, Oklahoma, Washington
  - Spring wheat: Dakotas, Montana, southern Canada
- Highly mechanized: combines, worth hundreds of thousands of dollars, migrate northward in U.S., following the harvest

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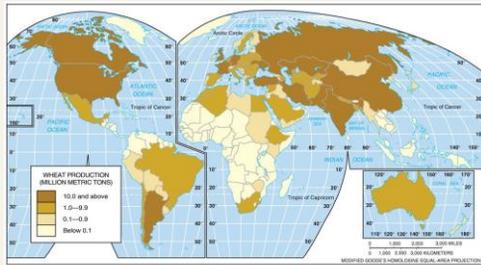
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## Wheat production



China is the world's leading wheat producer, but the U.S. and Canada account for about half of world wheat exports

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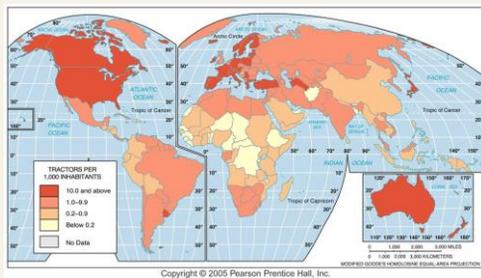
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## Tractors, per Population



Tractors per 1,000 people. Use of machinery is extensive in most MDC agriculture, but it is much less common in LDCs

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## Livestock Ranching

- **Where:** arid or semi-arid areas of western U.S., Argentina, Brazil, Uruguay, Spain and Portugal.
- **History:** initially open range, now sedentary with transportation changes.




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## Livestock Ranching

□ Environmental effects:

- Overgrazing has damaged much of the world's arid grasslands (< 1% of U.S. remain!)
- Destruction of the rainforest is motivated by Brazilian desires for fashionable cattle ranches



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## Mediterranean Agriculture

- **Where:** areas surrounding the Mediterranean, California, Oregon, Chile, South Africa, Australia
- Climate has summer dry season
- Landscape is mountainous
- Highly valuable crops: olives, grapes, nuts, fruits and vegetables; winter wheat
- California: high quality land is being lost to suburbanization; initially offset by irrigation

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## Mediterranean Agriculture



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## Commercial Gardens & Fruit Farming

- ❑ **Where:** U.S. Southeast, New England, near cities around the world
- ❑ **Crops:** high profit vegetables and fruits demanded by wealthy urban populations: apples, asparagus, cherries, lettuce, tomatoes, etc
- ❑ **Mechanization:** such truck farming is highly mechanized and labor costs are further reduced by the use of cheap immigrant (and illegal) labor
- ❑ **Distribution:** situated near urban markets.

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## Plantation Farming

- ❑ Large scale mono-cropping of profitable products not able to be grown in Europe or U.S.
- ❑ **Where:** tropical lowland Periphery
- ❑ **Crops:** cotton, sugar cane, coffee, rubber, cocoa, bananas, tea, coconuts, palm oil.
- ❑ What are potential problems with this type of agriculture? Environmental? Social?

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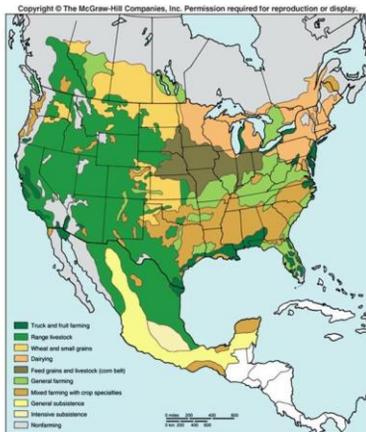
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## Agriculture Map of North America



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## The Chisholm Trail

- The Chisholm Trail became famous as the main route for cattle drives from Texas to the railheads in Kansas



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## Agribusiness

- Focus on minimizing risk
  - Producers want standard products
  - Farmers want guaranteed markets
- Contracts between farmers and corporations
- Political pressure for subsidies
- Political pressure on health

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## Von Thünen's land use model

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### Von Thünen's land use model

- German landowner in 1800s
- Noticed pattern of agricultural land use
- Three assumptions:
  - Isolated city (no trade)
  - Surrounded by homogenous landscape
  - All that matters is transport costs

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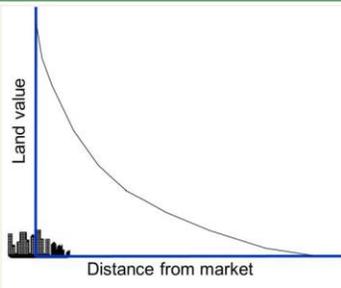
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### Von Thünen's land use model




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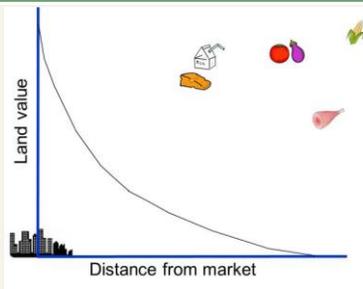
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### Von Thünen's land use model




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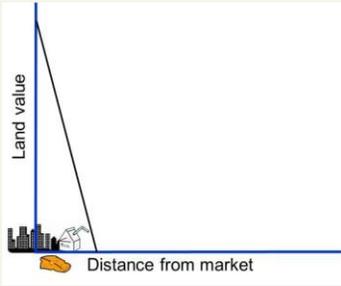
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### Von Thünen's land use model



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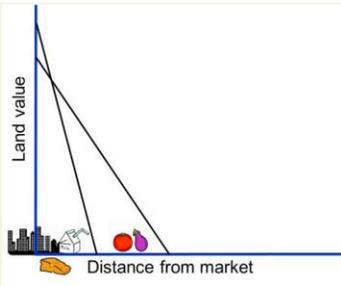
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### Von Thünen's land use model



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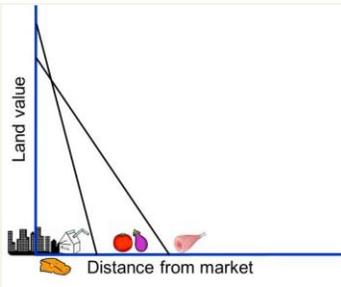
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### Von Thünen's land use model



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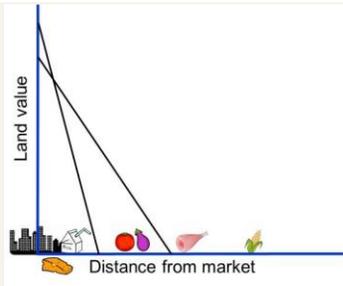
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### Von Thünen's land use model




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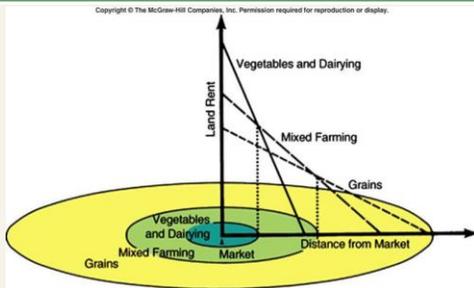
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### Von Thünen's land use model




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### Von Thünen's land use model

- So what?
- Connections between city and country
- General patterns of agriculture
- Can be applied to urban settings, too
- Decreased transport costs make the pattern larger

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