EXAM INFORMATION

- Exam 2 is **Thursday, April 18**.
- Bring a #2 pencil, eraser and a pen.
- Multiple choice short answer plus choice of essay topic.
- See Study Guide.
- Missed exam make-up is essay style.

- The Extra Credit for Exam Two is due at the start of the exam on April 18.
- Be sure to answer all questions and provide examples for maximum extra points.
- All other extra credit is by the end of the semester.

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Regional Landscapes of the United States and Canada

The Agricultural Core

Prof. Anthony Grande

Agricultural Core

Overlaps both the **Manufacturing Core** and **Canada's National Core**.

HIGHLIGHTS

Stretches from Lake Ontario to the Missouri River basin.

Called the "**Midwest**."

Land division system called "**Township & Range**."

Center of US **agricultural innovation**.

Has **food processing** and **farm equipment manufacturing** industries.

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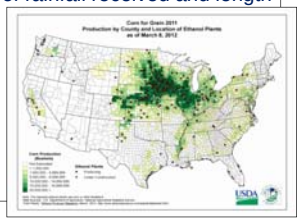
OVERVIEW

- **Ideal setting for agriculture:**
  - Long warm summers and ample precipitation.
  - Excellent conditions for growing grains, esp. corn.
  - **This is the Corn Belt**.
  - Crops vary with amount of rainfall received and length of growing season.
- **Western limit is marked by diminished rainfall.**
  - Corn gives way to wheat and other grains.



OVERVIEW

Cultural Landscape:

- **Rural, agrarian.**
- Land pattern characterized by the **Township and Range** grid.
- **Small towns support farm-based economy.**
- **Populated by immigrants** from central and northern Europe.
- **Excellent transportation system** to get products to market.

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OVERVIEW -Today

- **Area of large, corporate farms** (demise of small family units).
- **Agricultural activities entrenched** despite competition for land from the urban areas and manufacturing.
- **Food processing/ farm machinery industries** are located here.

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Landscapes of the Agricultural Core


Illinois corn farm


Iowa hog farm


Kentucky horse farm


Wisconsin dairy farm

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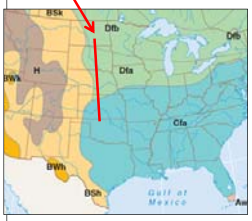
CLIMATE

1. **Transition zone:** between the Humid Subtropical (Cfa) and Humid Continental (Dfa) climates.
2. **Continentality:** great seasonal range of temperature; hot summers and cold winters.
3. **Ample precipitation:** c.30 in., most during the growing season
4. **Little risk of drought.**
5. **Long growing season**: Apr-Oct
6. **Subject to severe weather.**

Line marks the approximate location where a moisture deficiency kicks in for corn.



Temperature and moisture statistics are ideal for corn.
- Too cold to the north; too warm to the south, and too dry to the west.

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LANDFORMS

- **Part of the interior lowlands**
  - Gently rolling land
  - Suitable for farm machinery
  - Good drainage
- **Most of the area was glaciated**
  - Glacial till covers the area; variety of minerals
  - Moraines and other features create rolling landscape
- **Bluegrass Plain** (Kentucky)
  - A topographic basin underlain by limestone
  - Limestone layers have been eroded by groundwater
  - ***Karst*** topography created as water dissolves limestone. Caves, sinkholes result.

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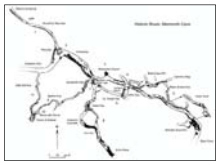
Mammoth Cave NP



World's longest cave system.
http://www.nps.gov/maca/index.htm

SOILS

The region has a variety of excellent soils.

- ☑ Formed under grasslands or forests.
- ☑ A and B horizons are rich in minerals - organic and inorganic
- ☑ B-horizon not heavily leached of minerals in spite of rainy conditions.
- ⊿ Glacial debris has a high mix of limestone that neutralizes acid soil – a plus.

❖ ***Leaching is when water dissolves and removes minerals from a soil.***

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Northwest Territories

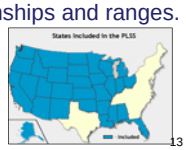
- **Northwest Territories**: land **west** of Pennsylvania and Virginia, **north** of the Ohio River, but east of the Mississippi River.
  (The states of Ohio, Indiana, Illinois, Michigan and Wisconsin were created.)
- Settlement began in the late 1700s after Congress enacted the **Land Ordinance of 1785** to divide and sell the land in an orderly manner.

See pages 29-30 in historical atlas

Land Ordinance of 1785

Township and Range Survey System

- ✓**Congress' answer to the unsystematic and problematic Metes and Bounds system.**
  - First applied to The Northwest Territories, later extended to all new U.S. lands.
- ✓**East-west base lines** and **north-south principal meridians** create a grid of townships and ranges.
  - **Regular, rectangular.**
  - Surveyed **before** settlement.
  - Grid units can be a problem in some areas.



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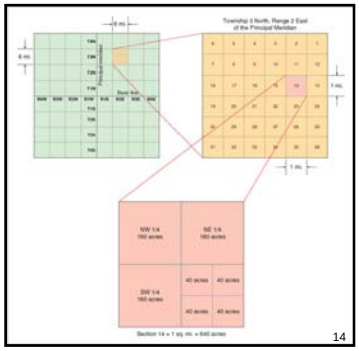
Township and Range Survey System

Each township is 6 miles square.

Each township is divided into 36 sections.

Each section consisted of 640 acres. Land could be purchased in multiple acres.

Section 16 of every township **was set aside to support education.** Money from sale or rent was set aside to fund public schools.



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Township and Range Landscapes

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Settlement

- **There was a land rush from the east coast states into the Northwest Territories** (Ohio first).
- **European immigrants moved into the territory.**
  - Original migrants were from NW Europe: Germany, Netherlands, British Isles, and Scandinavia
  - Later migrants from southern and eastern Europe settled in the manufacturing cities.
- **Rural areas became the new Americana.**
  - Stability
  - Resistant to change
  - Isolation from change-producing forces of East

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Accessibility

- **Advantages**
  - Settlers had easy access into the region.
  - Farm goods could be easily shipped to market.
- **Pattern of waterways** (major form of transportation in1800s)
  - Most rivers were navigable by small boats and barges.
  - Access to NYC via the Erie Canal.
  - Numerous rivers flowed into Mississippi River which gave access to New Orleans. River boats brought in merchandise.
- **Cities grew at strategic locations** - usually river junctions and portage points.
- **20th Century changes:** rural roads paved, farmers get motor vehicles, small market towns by-passed.

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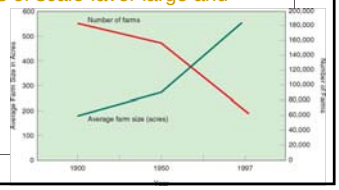
Mechanization and Farm Size

- **Midwest farms have become increasingly corporate in organization and less family-owned and operated.**
- **Farm size:** individual farms have increased in size while the number of farms has decreased in number. *Economies of scale* favor large and medium-sized farms
- **Increasing use of machinery.**



Plowing

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Farming Techniques

Strip cropping:

Practice of **growing different crops in alternate bands** (as corn, oats, wheat and hay), especially on sloped areas.

Protects the soil from erosion.

Facilitates crop rotation to preserve soil fertility.

Contour plowing:

Plowing the land at right angles to the slope; retards soil erosion.

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Agricultural Development

Early settlers farmed and raised livestock.

- **Wheat**
  - High-value crop with reliable market
  - Hard on soils, therefore shifted west with settlement
  - Shipping dependent on water transport
  - Flour milling at break-in-bulk points (Cincinnati, Buffalo)
- **Meat** from domestic livestock
  - Hogs and cattle
  - Mixed farming: raising grain to feed livestock
  - Rise of Cincinnati as "*Porkopolis*"

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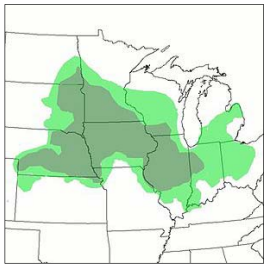
The Corn Belt



- **Midwest subregion where corn has been the dominant since the 1850s.**
- **Now the crop is almost entirely hybrid corn.**
- **Most is used as feed for livestock, especially hogs and chickens.**
- **U.S. produces about 40% of world corn crop.**
- **Increasingly complemented by and rotated with soybeans**
- **Growing use of corn for ethanol.**

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Corn Harvesting

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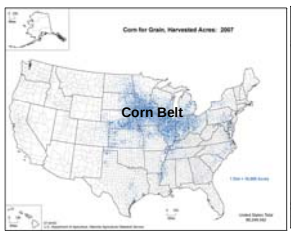
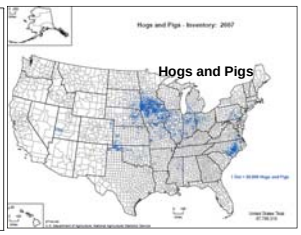
Corn-Hogs/Pigs Correlation





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More than Corn

- **Fruit Belts**
  - Lake Michigan, Lake Erie shorelines
  - Moderating effect of lakes: late springs, long autumns
- **Dairying**
  - North of Corn Belt: too cold for corn
  - Area of German, Scandinavian immigrants
  - Surplus milk: Cheese, butter, dairy products

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Soybeans

Reasons for increased production

Legume (a plant that adds to soil)

Few climate demands

Many uses:

- Eat directly
- Mill into oil
- Low in fat, high in protein
- High export demand

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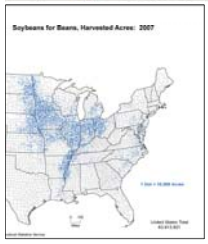
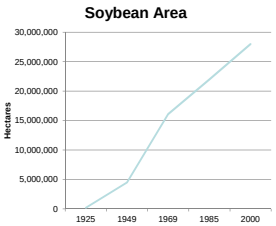


Soybean Acreage



The area planted in soybean has greatly increased over the last 100 years.

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Commercial Food Processing

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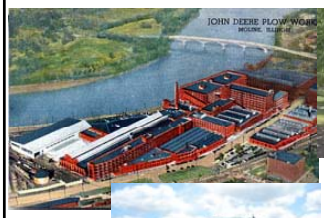
John Deere Factory



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Ethanol

Ethanol is a fuel made from processing biomass. **Corn is a very good source of biomass.**

Ground corn stored in the manufacture of ethanol.

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