



5.3 Agricultural Origins and Diffusion

Objective and Essential Learning

Identify major centers of domestication of plants and animals.

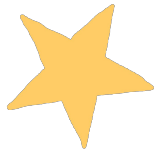
- Early hearths of domestication of plants and animals arose in the Fertile Crescent and several other regions of the world, including the Indus River Valley, Southeast Asia, and Central America.

Explain how plants and animals diffused globally.

- Patterns of diffusion, such as the Columbian Exchange and the agricultural revolutions, resulted in the global spread of various plants and animals.



Agricultural Hearths



Hearth: The geographic origin of a trait, characteristic, innovation or other concept. Remember, it is where something is “born.”

Domestication: The deliberate effort to grow plants and raise animals, making plants and animals adapt to human demands.

Agricultural Hearths: The separate locations in which groups of people began to domesticate plants and animals.



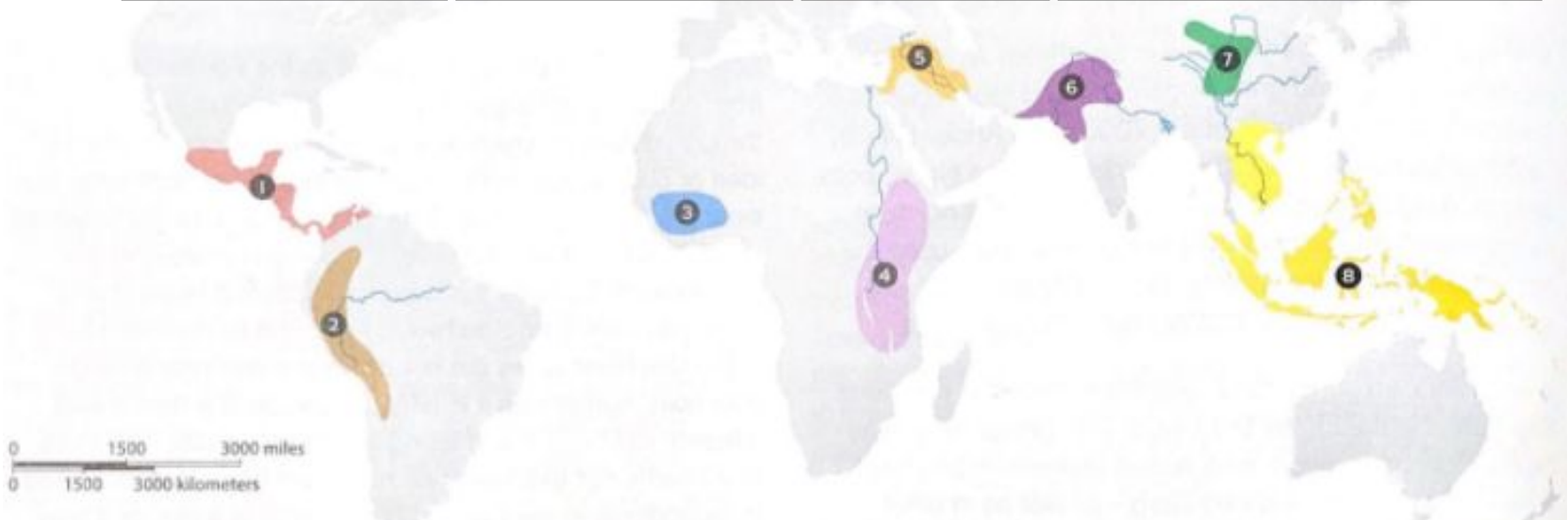
AGRICULTURAL HEARTHTHS

1. Central America

2. Andean Highlands

3. West Africa

4. East Africa/Nile River Valley



5. The Fertile Crescent

6. The Fertile Crescent

7. Wei-Huang River Valley

8. Southeast Asia

AGRICULTURAL HEARTHES

The Fertile Crescent (10,000 years ago)

- AKA: The Bread Basket
- Crops: Barley, wheat, lentils, olives, oats, rye
- Animals: Sheep, goats, cattle, pigs



0 1500 3000 miles
0 1500 3000 kilometers



AGRICULTURAL HEARTHS

Southeast Asia (10,000 years ago)

- Crops: Sugarcane, taro, coconut, mango, bananas, grapefruit, rice, tea



0 1500 3000 miles
0 1500 3000 kilometers

AGRICULTURAL HEARTHTHS

East Asia (9,500 years ago)

- Crops: Rice, soybeans, walnuts



0 1500 3000 miles
0 1500 3000 kilometers

AGRICULTURAL HEARTHS

Sub-Saharan Africa (7,000 years ago)

- Crops: Coffee, cowpeas, millet, African rice, sorghum, yams

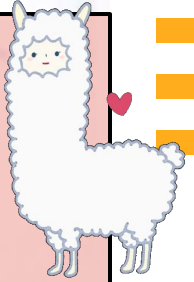


0 1500 3000 miles
0 1500 3000 kilometers

AGRICULTURAL HEARTHES

Mesoamerica (5,500 years ago)

- Crops: Sweet potatoes, beans, maize, chiles, peppers, cotton, cassava, lima beans, potatoes, tomatoes.
- Animals: Llamas and Alpaca



0 1500 3000 miles
0 1500 3000 kilometers

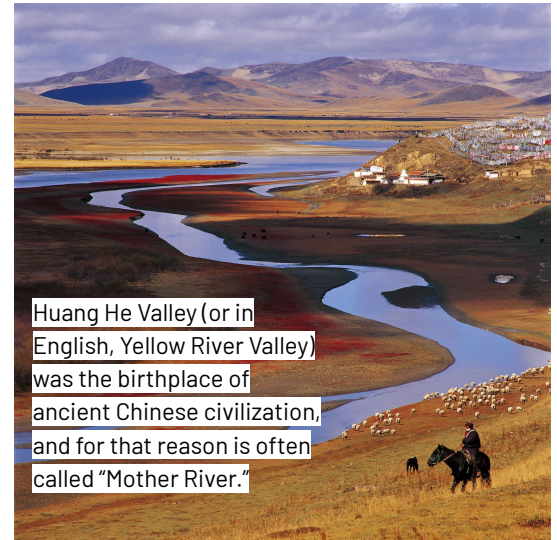
Agricultural Hearths



Independent Inventions: Occurs when a trait has many cultural hearths; the idea that the trait developed separately without being influenced by other cultural groups.

Commonalities Among Agricultural Hearths

- Fertile soil in river valleys
- Availability of water
- Moderate climates
- Collective societal structures
 - More food surplus = more population

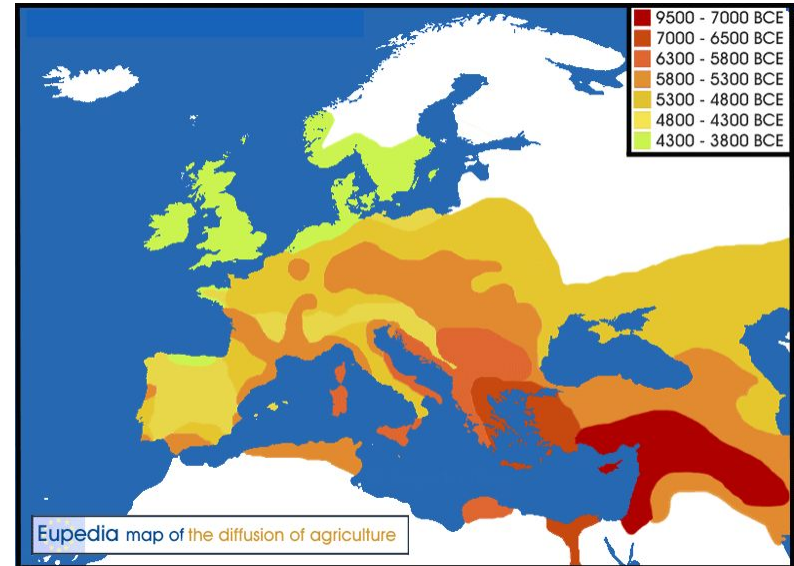


Huang He Valley (or in English, Yellow River Valley) was the birthplace of ancient Chinese civilization, and for that reason is often called "Mother River."

The Diffusion of Agriculture

Historic Diffusion of Agriculture

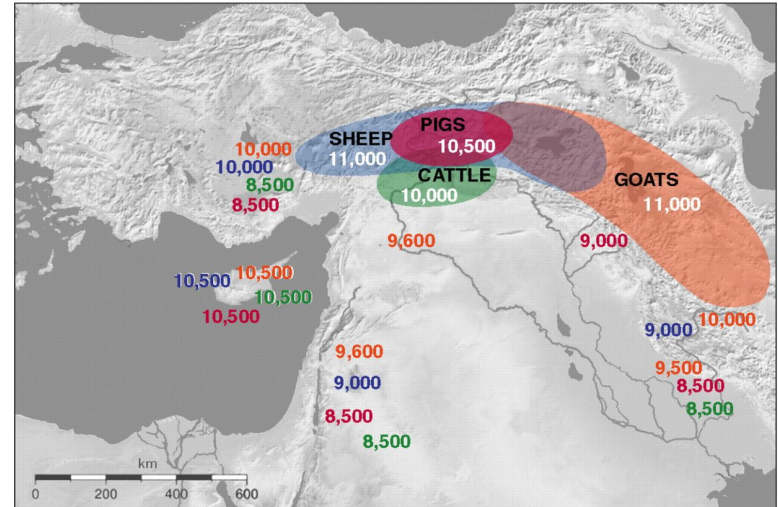
1. **Contagious Diffusion:** Agriculture first diffused to the immediate surrounding areas of the hearths through close contact and proximity between farmers.
 - Agriculture & animal domestication originated in the Fertile Crescent and then diffused through Turkey into Eastern Europe.



The Diffusion of Agriculture

2. **Immigration & Migration:** Example of relocation diffusion. As people migrate they bring food, ingredients, seeds and animals with them!

- Stimulus diffusion - As people moved into new locations, seeds may not be as prosperous due to different physical conditions.
 - Resulting in the adaptation of farming methods or crops using the agricultural knowledge the farmer had previously acquired.

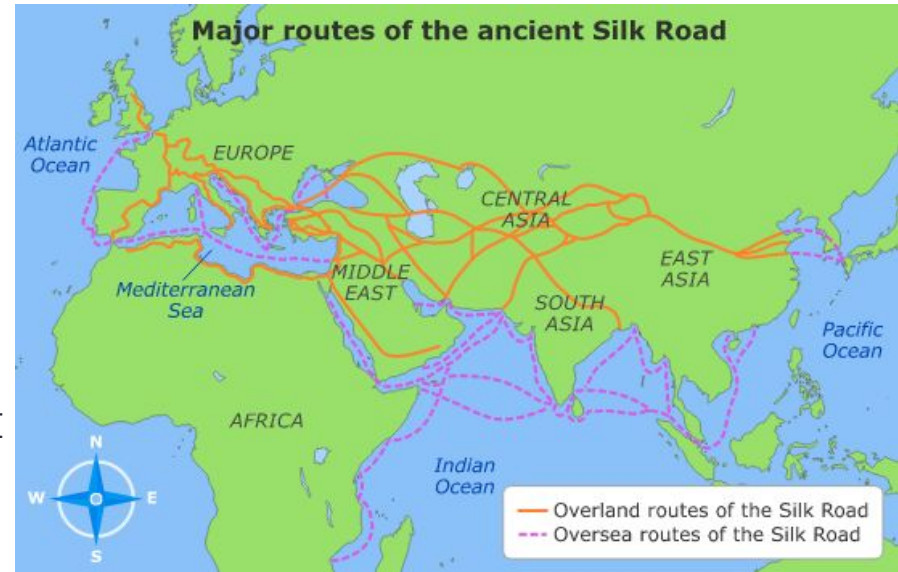


One study of archaeological sites in Southwest Asia and Europe suggests that agriculture spread from the locations at a rate of about 0.6 miles a year for a period of about 3,000 years.

The Diffusion of Agriculture

3. Trade Routes

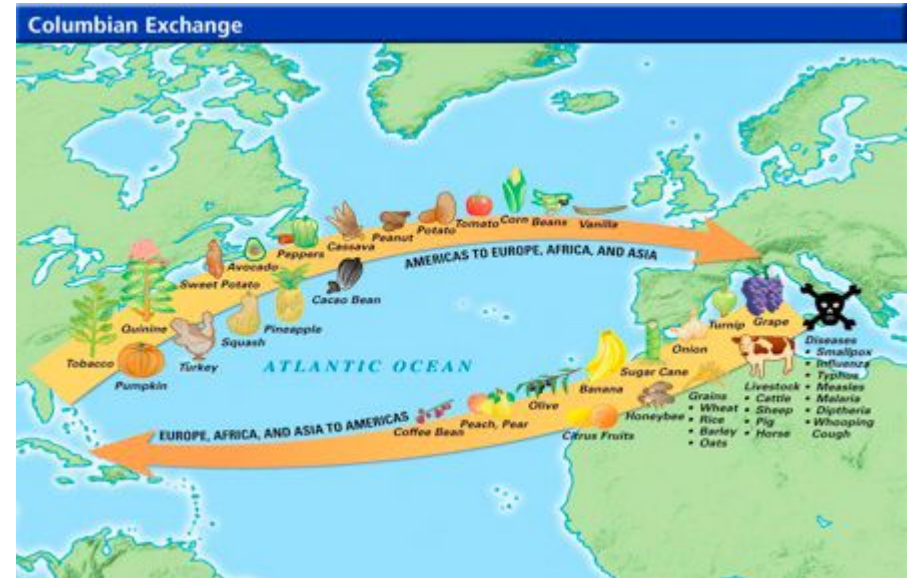
- The Silk Road: Over 4,000 miles of trade routes that connected China with Europe with a variety of different people interacting.
 - Resulted in the spread of plants and animals throughout East Asia, South Asia, the Middle East, Africa and Europe.
 - Contagious Diffusion



The Diffusion of Agriculture

4. The Columbian Exchange

- The exchange of goods and ideas between North America, Africa, and Europe initiated by Christopher Columbus' voyage to the Americas in 1492.
 - Resulted in the spread of plants, animals, and diseases between the "Old World" and the "New World."
 - Contagious Diffusion



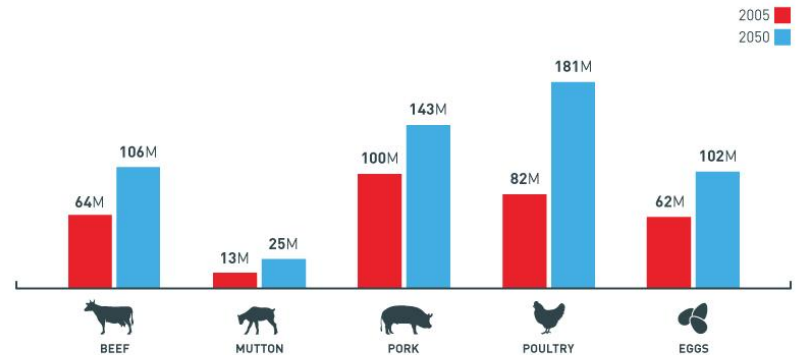
The Diffusion of Agriculture

Modern Diffusion of Agriculture

1. **Green Revolution:** Spread high yield varieties of crops around the world. For example, new varieties of plants replace traditional crops in places like Mexico and India.
2. **Demand for Meat:** Significantly increased due to increasing wealth across the globe AND the diffusion of fast food chains like McDonalds.

GLOBAL DEMAND FOR MEAT

2005 vs. 2050
(in tonnes)



Source: Food and Agriculture Organization of the United Nations, ESA Working Paper No. 12-03, p. 131

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