

Name: Key

Period: \_\_\_\_\_ Date: \_\_\_\_\_

Unit  
**5**

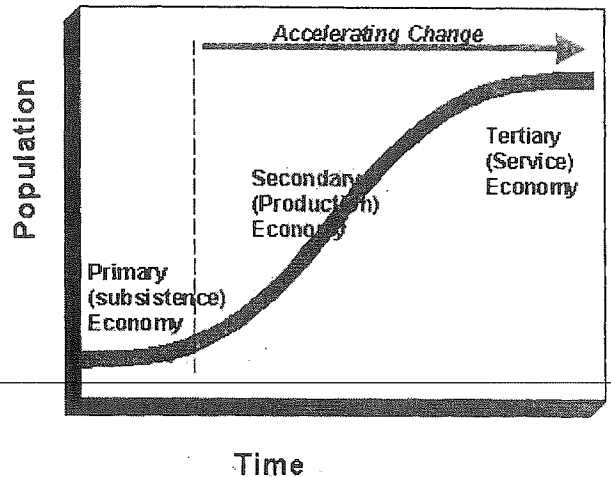
**Origins of Agriculture and  
the Isolated State**

**Rural Geography**

The following information corresponds to Chapter 11 in your textbook. Note: All of the following information in addition to your reading is important, not just the blanks you fill in.

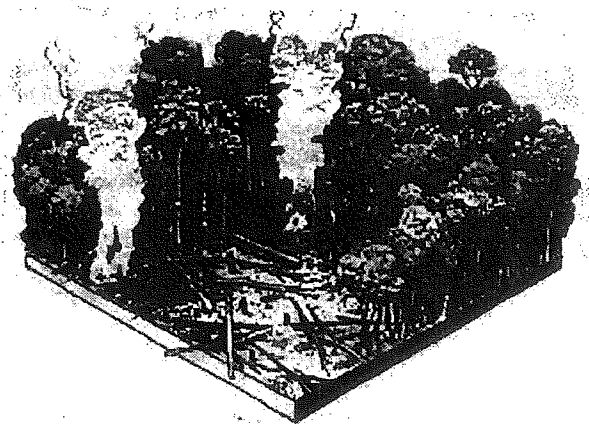
Classifying Economic Activities

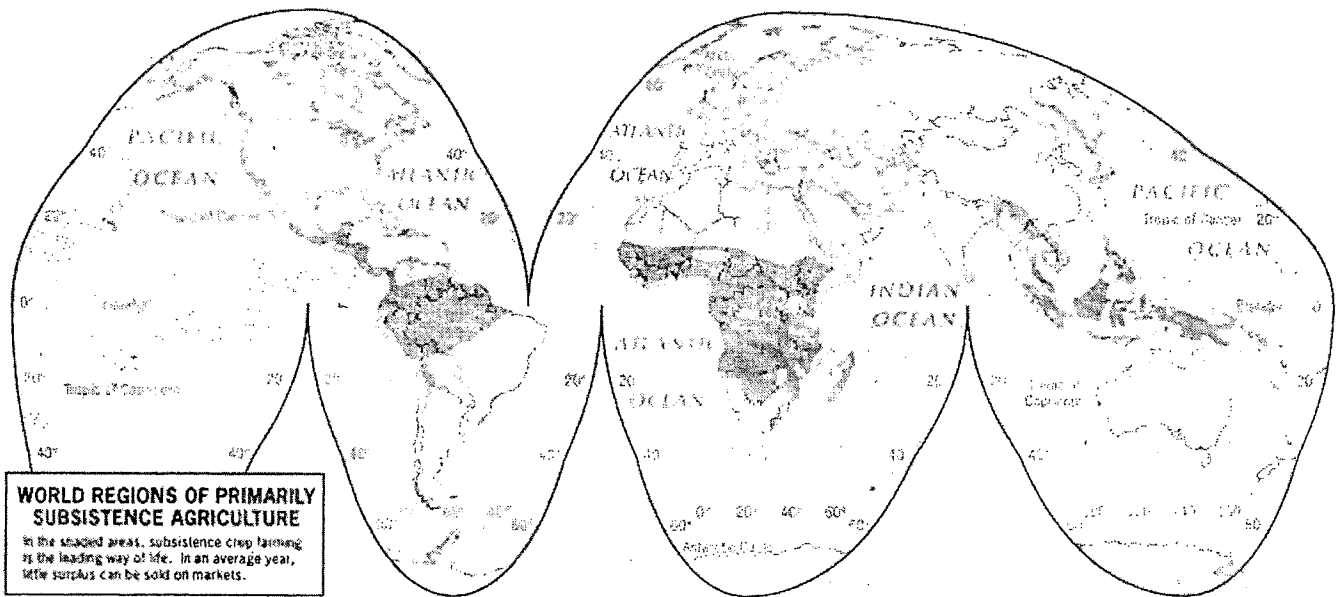
- Primary activities – the Subsistence sector; direct extraction of natural resources from the environment; hunting and gathering, herding, fishing, mining, lumbering,...
- Secondary activities – the Production sector; processes raw materials and transforms them into finished industrial products; production of an almost infinite range of commodities (toys, chemicals, buildings, ...)
- tertiary activities – the Service sector; engaged in services: transportation, banking, education, ...)
- QUATERNARY concerned w/ collection, processing, and manipulation of information & capital (finance, administration, insurance, legal services)
- QUINARY require a high level of specialized knowledge or skill (scientific research, high-level management)



The Rise of Farming

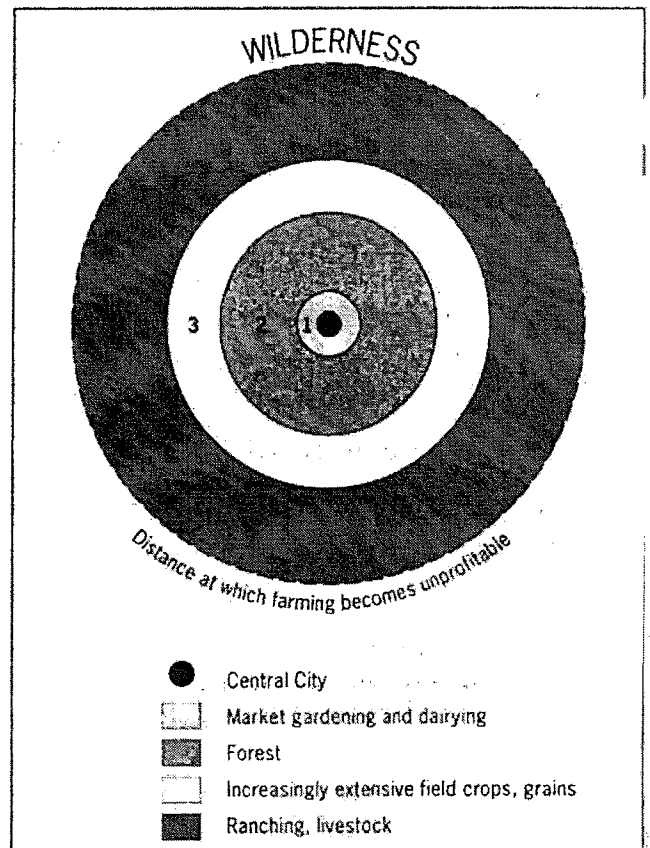
- Farming the deliberate tending of crops and livestock in order to produce food and fiber.
- Hunting and gathering dominated before agriculture – a recent innovation (~12,000 yrs. ago).
- Agriculture permitted people to settle permanently with the assurance that food would be available for the future (along with innovations in storage)
- Before farming: early communities improved tools, weapons, and innovations. Give at least one example of each:  
axe, stone, fire
- smelting - separating metal from ores, developed prior to plant & animal domestication.
- Fishing – increased after the Ice Age (12,000 – 15,000 yrs ago), when coastal regions became warmer.
- The 1<sup>st</sup> Age Rev. occurred around 12,000 yrs ago (Neolithic Era) concurrently in areas like the Fertile Crescent, China, N. Africa...; it was accompanied by a modest population explosion, along with plant and animal domestication (about 40 animal species have been domesticated today).
- Subsistence farming - self-sufficient, small scale agriculture, involving low technology; food production is for personal consumption, and usually not for trade (e.g. Central & South America, Sub-Saharan Africa, S.E. Asia).
  - Some farmers are confined to small fields; very likely they do not own the soil they till.
  - This type of economic activity can promote cohesiveness w/in a society (e.g. share land, food surpluses, personal wealth is restricted); cultivators are poor – but free.
  - MILPA/PATCH AGR. – (slash & burn) cultivation where tropical forests are removed by cutting & burning, ash contributes to soil fertility; clearings are usually abandoned after a few years for newly cleared land (150-200 million people worldwide).
- The 2<sup>nd</sup> AGR. REVOLUTION began at end of Middle Ages, and has benefited from the Industrial Revolution, along with improved methods of cultivation, harvesting, and storage.





### The Isolated State

- Johann Heinrich VON THUNEN (1783-1850) witnessed the 2<sup>nd</sup> Agricultural Revolution firsthand (in Rostock, Germany), his model was the first effort to analyze the spatial character of economic activity. Key elements of his model included:
  - Four Concentric rings formed around the city, within which particular commodities (or crops) dominated, and others were replaced (without any visible change in terrain, soil, or climate)
  - Closest to town [1] - Dairying and intensive farming occur in the ring closest to the city. Since vegetables, fruit, milk and other dairy products must get to market quickly; highly perishable items, high priced.
  - [2] Timber and firewood would be produced for fuel and building materials in the second zone. Before industrialization (and coal power), wood was a very important fuel for heating and cooking. Wood is very heavy and difficult to transport so it is located close to the city.
  - [3] Extensive field crops such as wheat for bread, or other grains (less perishable). Since grains last longer than dairy products and are much lighter than fuel, reducing transport costs, they can be located farther from the city.
  - Outer ring [4] - Ranching and livestock-raising is located in the final ring surrounding the central city. Animals can be raised far from the city because they are self-sufficient. Animals can walk to the central city for sale or for butchering.
  - Von Thünen's model assumed: 1) Flat terrain, 2) soil quality and conditions are equal, 3) no barriers to transportation to the market, 4) all transportation done by land (& no roads), 5) farmers will act to maximize their profits, and 6) the city is self-sufficient, with no external influences.



Unit  
**5**

**Landscapes of Rural Settlements**

**Rural Geography**

The following information corresponds to Chapter 11 in your textbook (~~11.1~~). Fill in the blanks to complete the definition or sentence. Note: All of the following information in addition to your reading is important.

The Third Agricultural Revolution

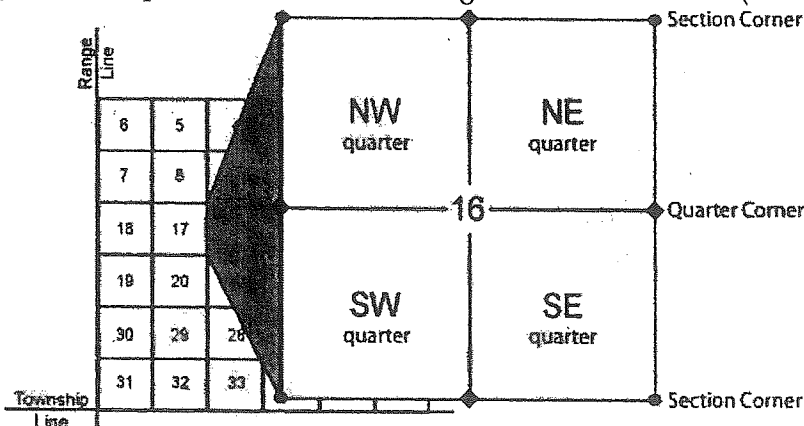
- The Third Agricultural Revolution is also known as the Green Revolution, and began in the 1930s & 40s when American agriculturists manipulated seed varieties of corn to increase crop yields in Mexico.
- It has not just been the production of higher yielding VARIETIES (e.g. IR36 = RICE) - also development of chemical fertilizers, insecticides, irrigation, machinery, and hybridization (e.g. more disease-resistant).
- MEXICO was no longer importing corn by 1960; INDIA was self-sufficient in wheat by the 1980s; and ASIA saw a 2/3 increase in rice production between 1970 and 1995...
- Despite these successes, the Green Revolution has had only a marginal impact in much of AFRICA:  
Why? - DIFFERENT CROPS IN AFRICA  
- LOWER SOIL FERTILITY = LOWER INVESTMENT
- An entire field of BIOTECHNOLOGY has sprung up in conjunction with the Third Agricultural Revolution, focused on the development of genetically engineered crops (GE) or GENETICALLY MODIFIED ORGANISMS (GMOs); these can be found in 75 percent of all processed food in the US.
- Conditions for the Green Revolution to be a success within a region include - surplus LAND, POLITICAL stability, COMMERCIAL (not subsistence) farmers, transportation and INFRASTRUCTURE a MARKET economy (as opposed to a command (communist) economy), SOCIETAL acceptance, and ... Countries like China, India, and Mexico have benefited perhaps more than other regions (e.g. Sub-Saharan Africa).
- Conditions that limit success include - a decline in SOIL quality, RESOURCES (e.g. water), increased USE of fuel & fertilizer, lack of EQUALITY (e.g. women unable to receive credit), crushing DEBT (individual & national), ENVIRONMENTAL factors (erosion, desertification), loss of DIVERSITY (fewer choices),...

Patterns of Settlement and Land Use

- The size and structure of rural regions depend on space, environment, and social norms (as well as laws).
- PRIMOGENITURE system in which all land passes to the eldest son; the norm in northern Europe (and in their colonized areas - Americas, South Afr., Australia,...)
- CADASTRAL system - delineates property lines;
- Rectangular survey system (adopted by the U.S.); the TOWNSHIP - AND - RANGE system - designed to facilitate the even dispersal of settlers; the basic unit is the 1 square mile section; used across the Midwest (Northwest Ordinance - 1787) & also in Canada.
- The METES AND BOUNDS SURVEY approach uses natural features to demarcate irregular parcels of land; used along the eastern seaboard (U.S. & Can)

HOMESTEAD ACT (160 ACRES)

1 sq. mile sections

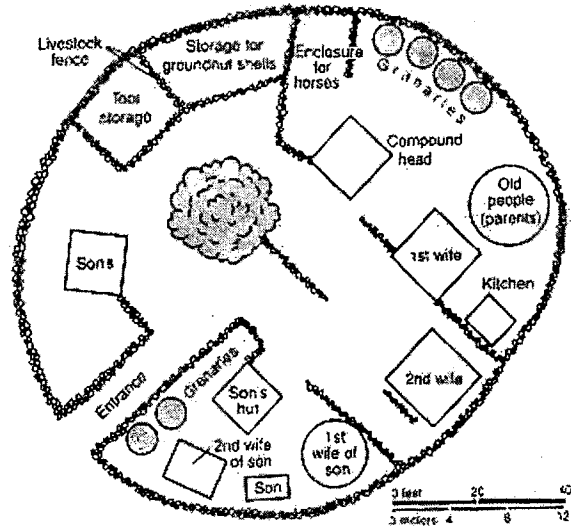


- The LONG-LOT SURVEY system divided land into narrow parcels stretching back from rivers, roads, or canals; this approach was common in Quebec, and French America (parts of Louisiana & Texas).

\* The map on page 345 in your text is particularly useful in identifying the dominant land survey patterns in the United States.

## Housing and Landscape

- DISPERSED settlement - houses lie quite far apart; the land is intensely cultivated by machine rather than by hand. Give one example:  
*AMERICAN MIDWEST*
- NUCLEATED settlement - houses are grouped together in tiny clusters (hamlets) or larger clusters (villages); this is by far the most prevalent rural residential pattern in agricultural areas.
- Early humans lived in small bands; as the communal structure became more complicated and people performed different tasks, some SOCIAL STRATIFICATION could be seen in buildings (e.g. chief's residence was larger, or more imposing than the others; buildings for food storage and livestock shelter became necessary).
- Human communities existed in widely separated areas as early as 10,000 years ago; one of the most fascinating adaptations was the invention of the IGLOO by the Inuit people in the frozen northlands - using the very materials they were trying to protect themselves from.

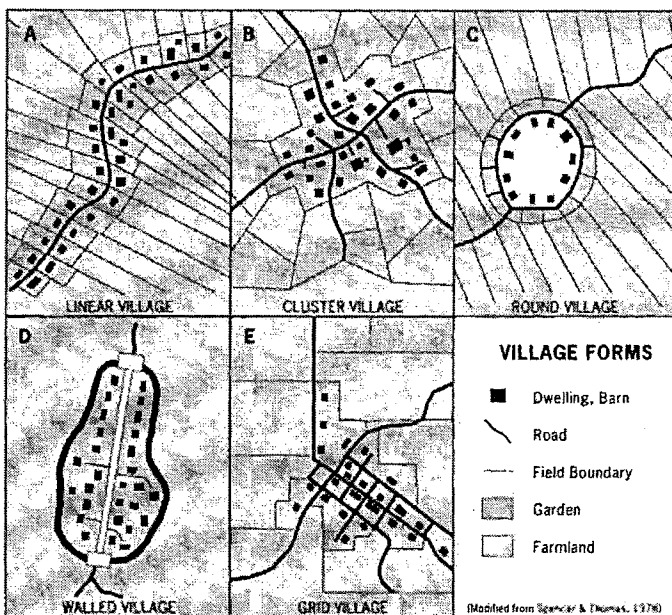


## Villages

- From individual dwellings to settlements: Now more urban of the world lives in villages and rural areas.
- The smallest rural settlements are HAMLETS; often defined in terms of its ECONOMIC ACTIVITY (a hamlet offers very few services (gas station, store, etc...), whereas a village (the other rural settlement form) may offer several dozen services).

• At what point does a village become a town (minimum population)?

Canada - United States - India - Japan -



- Traditionally, the majority of the people in a village are involved in PRIMARY activities, and are closely connected to the land (most of their livelihoods depend on the cultivation of nearby LAND).
- A) LINEAR - houses in Japanese villages are tightly packed (need to allocate every available foot of land for farming); Western European villages built on dikes & levees (strassendorfs) to protect from flooding.
- B) CLUSTER - the village may have begun as a hamlet, and developed by accretion.
- C) ROUND - (rundling) European - similar to East Afr. circular village (w/ a central cattle corral).
- D) WALLED - farm villages fortified for protection
- E) GRID - most modern villages are planned this way; Spanish invaders in Middle America laid out their villages in this manner centuries ago.

Unit  
**5**

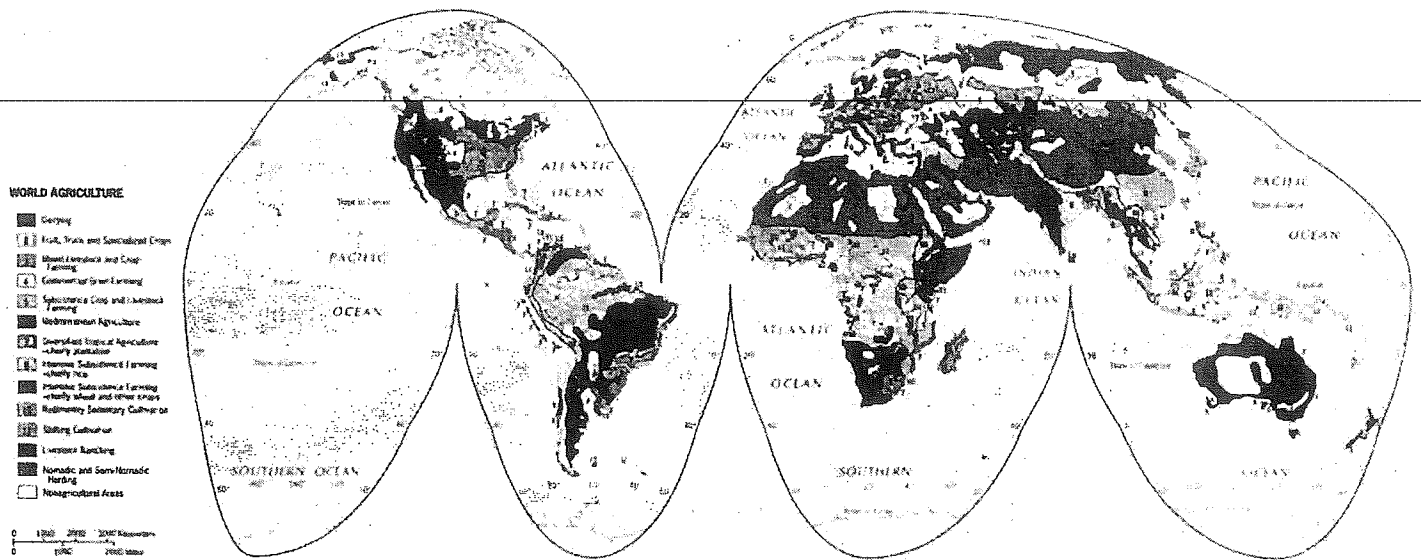
**Commercial Agriculture**

**Rural Geography**

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**Global Patterns**

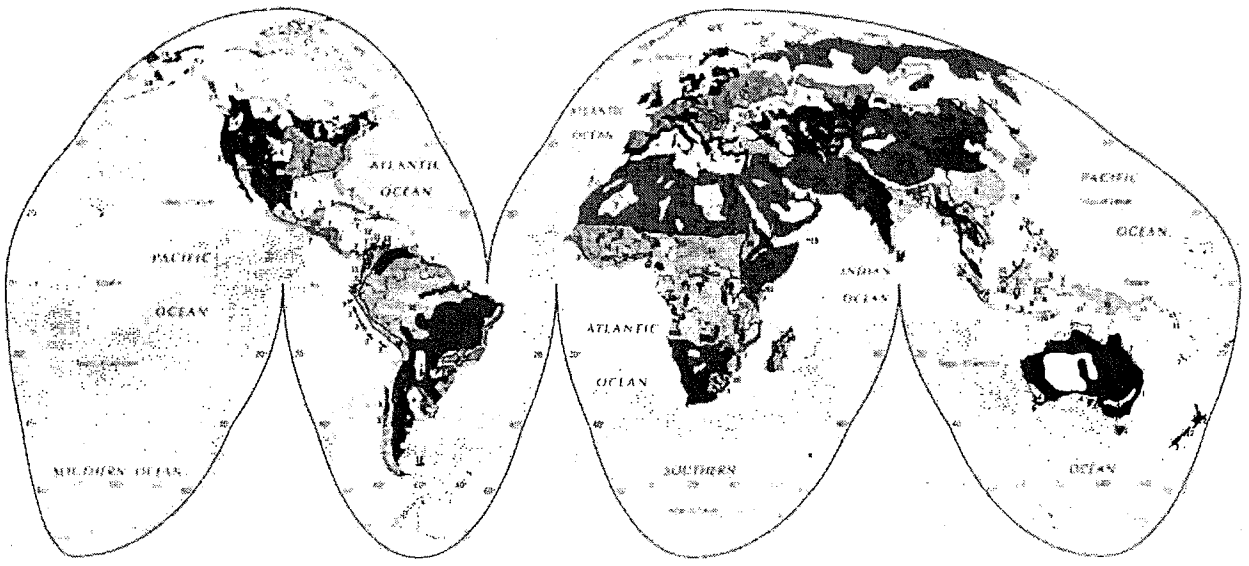
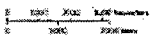
- The roots of COMMERCIAL AGRICULTURE can be traced to the colonial empires established by Europe in the 18<sup>th</sup> & 19<sup>th</sup> centuries. Long-entrenched AGRICULTURAL systems and patterns are difficult to change.
  - MONOCULTURE - the dependence on a single agricultural commodity (major impact of imperialism).
  - Non-SUBSISTENCE farming in many poorer countries is a leftover from the colonial era. When cash crops are grown on large estates, the term PLANTATION AGRICULTURE is used.
- \*Some examples of plantation agriculture are: SUGAR, BANANAS, COFFEE, COCOA



CROP	DESCRIPTION	LOCATION
CASH & Luxury Crops		
CASH SUGAR PLANTATION	- BROUGHT BY EURO. IN 1600S TO COLONIES - CANE V. BEETS	- CARIBBEAN - CORE AREAS TOO (US)
CASH COTTON PLANTATION	- ↑ DURING IND. REV. - GB → INDIA - COMP. W/ SYNTHETIC FIBERS	- US (SE) - CHINA - CENTRAL ASIA
CASH RUBBER PLANTATION	- ↑ DURING IND. REV & ↑ W/ AUTO - AMAZON BASIN 1 <sup>ST</sup> - COMP. W/ SYNTHETIC	- SE ASIA (90%) - BRAZIL - CONGO BASIN - AFRICA
LUXURY COFFEE PLANTATION	- DOMESTICATED IN E. AFRICA - 2 <sup>ND</sup> MOST TRADED (PETROL #1) - ↑ IN FAIR TRADE	- US IS #1 CONSUMER - MIDDLE & S. AMERICA (70%)
LUXURY TEA PLANTATION	- POPULAR IN THE EAST; ON ↑ IN <del>US</del> (EURASIA) - POPULAR IN UNITED KINGDOM - CHINA - ORIGIN	- CHINA, INDIA, SRI LANKA, JAPAN

**WORLD AGRICULTURE**

- Dairies
- Fruit, Nuts and Specialized Crops
- Mixed Livestock and Crop Farming
- Commercial Grain Farming
- Subsistence Crop and Livestock Farming
- Mediterranean Agriculture
- Generalized Tropical Agriculture - chiefly plantation
- Intensive Subsistence Farming - chiefly rice
- Intensive Subsistence Farming - chiefly wheat and other crops
- Modernized Subsistence Cultivation
- Shifting Cultivation
- Livestock Ranching
- Humid and Semihumid Pastoral
- Arid Pastoral or Animal



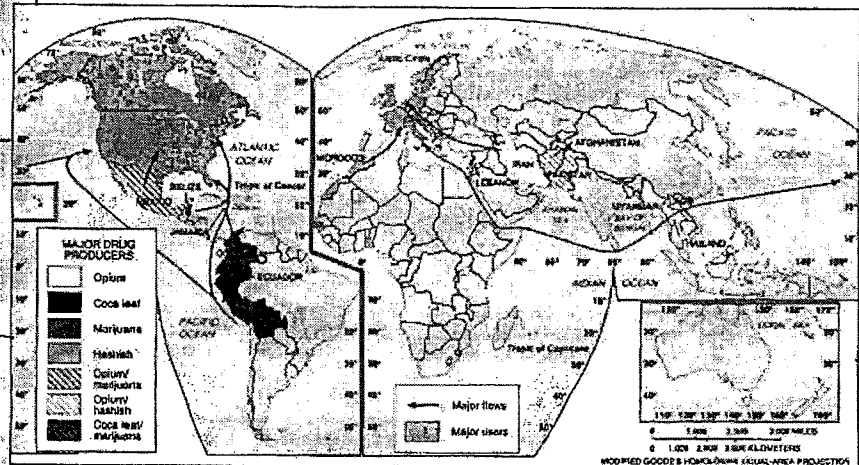
Largest Areas of Comm. Agr.

or a MATE OF THE

CROP	DESCRIPTION	LOCATION
Non-tropical agriculture	- DISTANCE/TRANS. HELPED BY REFRIG.	- NORTHERN MARGINS OF MID-LATITUDES (NE US & NW EURO.)
DAIRY, FRUITS	- FRUIT, TRUCK, & SPECIALIZED	S & SE US
MIXED LIVESTOCK & CROPS	- CORN, SOYBEANS, HOGS, CHICKENS	- HUMID PARTS OF MID-LATITUDES (E. US, W. EURO. & RUSSIA)
COMMERCIAL GRAINS	- SPRING WHEAT IN NORTH - WINTER WHEAT IN SOUTH - EVEN LARGER BELT IN	- DRIER MID-LATITUDES (PRAIRIE PROVINCES & CENTRAL PLAINS OF US) → CENTRAL ASIA (UKRAINE-KAZAKHSTAN)
LIVESTOCK RANCHING	- WIDE DISTRIBUTION (HELPED BY TRANS. & REFRIG. STORAGE) - ON PERIPHERY (VON THUNEN)	- US, CANADA, MEXICO, E. BRAZIL & ARGENTINA, AUSTRALIA & NZ
<u>MEDITERRANEAN</u>	- DRY-SUMMER SPECIALIZED FARMING - GRAPES, OLIVES, CITRUS, FIGS, DATES - POP. PRODUCTS & PRICES = EXPORTS	- SHORES OF MED., CALIFORNIA, CENTRAL CHILE, SOUTH AFRICA'S CAP
RICE	- SUBSISTENCE & COMMERCIAL	- SE ASIA, CHINA
ILLEGAL DRUGS	- DEMAND IN CORE - POPPY, COCA, MARIJUANA	- IN PERIPHERY; MEXICO, COLOMBIA, AFGHANISTAN, MYANMAR

INTENSIVE-SUBSISTENCE RICE

INTENSIVE-SUBSISTENCE WHEAT & OTHERS



E. INDIA/SE ASIA

INDIA/NORTHERN CHINA



Unit  
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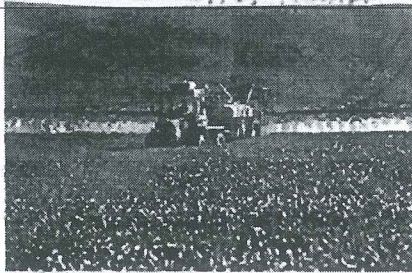
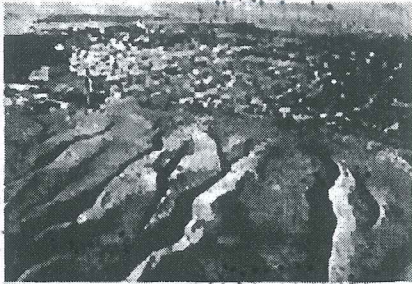
**The Changing Geography of Agriculture**

**Rural Geography**

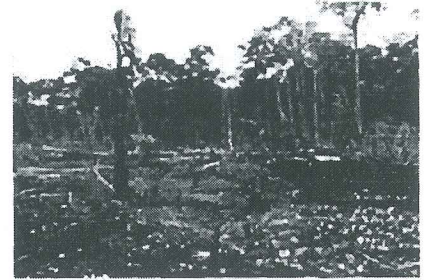
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Environmental Impacts

• COMMERCIAL agriculture creates significant environmental change; affects the ENVIRONMENT perhaps more than any other human activity (impossible to measure).

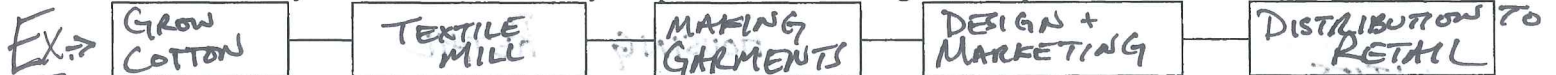


- OVER-FISHING - leading to the decline of fish stocks (250,000 bluefin tuna in 1975; \_\_\_\_\_ left today) ENDANGERED   
 *→ Blc of ↑ DEMAND*
- Clearing of forests for LIVESTOCK grazing in Central & South America (more land needed for feed grains as well – major cause of world hunger)
- \_\_\_\_\_ of hillsides in S.E. Asia (prevents soil from washing downhill, more land area)
- Changes in the organic content of SOIL; presence of chemicals in the U.S. (fertilizers, pesticides, antibiotics, growth hormones, herbicides,...)
- Expansion of livestock herding into semi-arid regions in Sub-Saharan Africa (can lead to DESERTIFICATION)

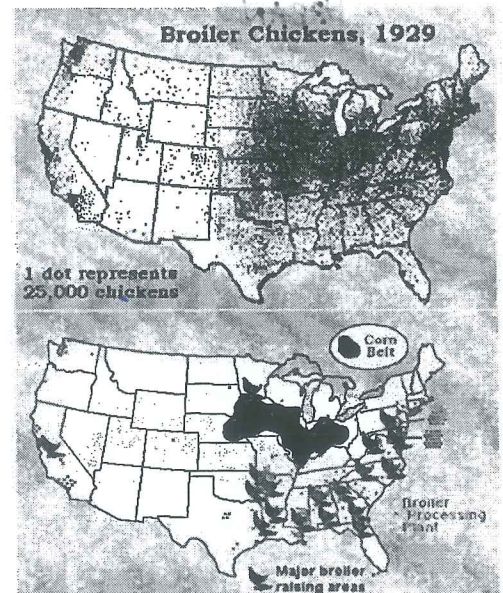


Agribusiness

- Def'n: large-scale, mechanized industrial agriculture; act as corporations.
- Commodity or food chains are usually composed of the following levels/steps:

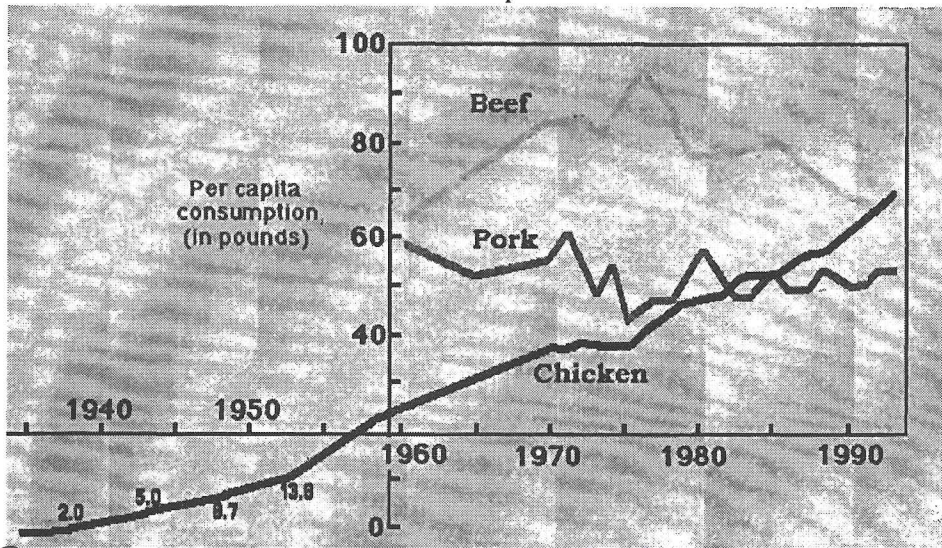
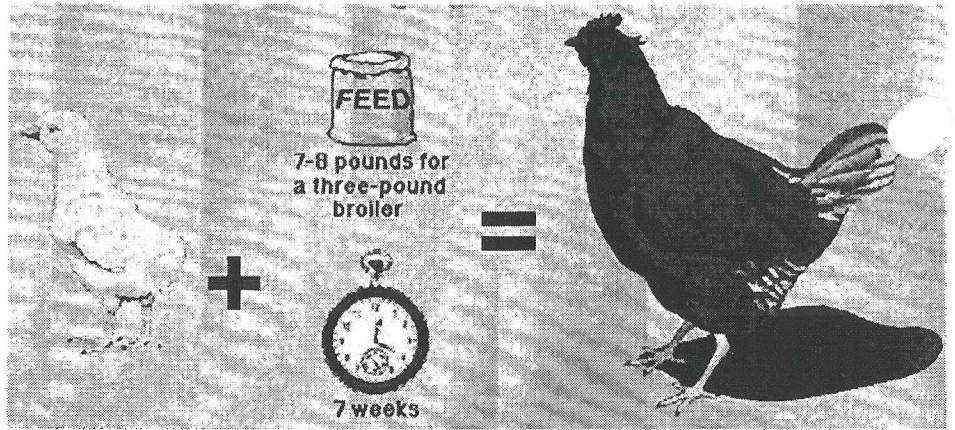


- The poultry, turkey, pork,... industries have transformed from single farmers to LARGE integrated companies. Today, poultry companies operate HATCHERIES, FEED mills, and PROCESSING plants; they supply CHICKS and feed to the farmers, or to the large CORPORATIONS
- Selective breeding has produced faster growing & bigger CHICKENS housed in enormous factories.
- BROILER HOUSES - located around AK, GA, the Piedmont areas of NC, and the Shenandoah Valley of VA.
- "Farmers" are involved in PRODUCTION much more than they are in primary activities (e.g., process the chickens via conveyor belts, work with bank officers & vendors).
- Americans eat 150 times more chicken today than in the 1930s.
- Economies of SCALE; "farmers" BROILER- RAISE chickens, buy in BULK, buy modern EQUIPMENT (computerized feeders, ventilation & waste systems – replaces MANUAL labor).
- LARGE AGRIBUSINESS companies (Tyson, Purina, Perdue) are involved in the HATCHING of eggs, supplying CHICKS to the broiler raisers, providing VETERINARIAN care, transporting broilers (take 7-8 weeks to grow), PROCESSING, MARKETING, & nationwide DISTRIBUTION.





- Better and - southeastern U.S. has a lower cost of living (lower WAGES), warm weather for CHICKENS; Midwest is good for CORN growing; close proximity = good (low TRANSPORTATION costs, fast TRANSPORTATION of corn from the Midwest to the South & chicken from the South to the big markets).
- HOG production is done in much the same way; with the rapid increases in Oklahoma and the Texas panhandle.



- COLLECTIVE agriculture (e.g. China) – consists of collective farms (results in the significant displacement of rural people) have mixed results; farming PRIVATIZATION is currently under way in China.
- Another trend is ORGANIC AGRICULTURE – without synthetic or industrially produced pesticides and fertilizers; > \$4 billion/yr sales in U.S.; crops = coffee, tea, cocoa, nuts, oils, spices, as well as certain fruits and vegetables.

\* Few farmers in distant lands have real control over land-use decisions, for the states in the global economic CORE continue to decide what will be bought at what price.

### Loss of Productive Farmland

- Some of the most fertile, productive farmlands are lost to HOUSING and RETAIL developments; many CITIES are absorbing the productive farmlands as they expand.
- As URBAN populations continue to grow and expendable INCOME increases for the wealthiest, more agricultural lands will be converted to housing developments.

