

Week 17

AP Human Geography

Homework bundle for this week

本周作业合集

exercises.lol

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5. Agriculture and Rural Land-Use Patterns and Processes Starter Quiz · 课前小测

AP Human Geography

Name: _____ Score: _____

1. Farming that grows food to sell for profit is called...
 - ☐ subsistence agriculture
 - ☐ commercial agriculture
 - ☐ intensive farming
 - ☐ nomadism
2. Homes grouped closely together form a _____ settlement.
 - ☐ dispersed
 - ☐ clustered
 - ☐ linear
 - ☐ random
3. The first domestication of plants and animals is called the...
 - ☐ Green Revolution
 - ☐ First (Neolithic) Agricultural Revolution
 - ☐ Industrial Revolution
 - ☐ demographic transition
4. The Second Agricultural Revolution mainly used the tools of the...
 - ☐ Neolithic era
 - ☐ Industrial Revolution
 - ☐ internet age
 - ☐ Green Revolution
5. The Green Revolution mainly raised food output by introducing...
 - ☐ more farmland
 - ☐ high-yield seed varieties
 - ☐ colonial borders
 - ☐ supranational organisations
6. Intensive farming uses a lot of labour or money on a small area.
 - ☐ True ☐ False

7. The long-lot system gives each farm a thin strip reaching a river or road.

☐ True ☐ False

8. Agriculture arose independently in several different hearths around the world.

☐ True ☐ False

9. Mechanisation reduced the number of workers needed on farms.

☐ True ☐ False

10. The Green Revolution helped countries like India avoid mass famine.

☐ True ☐ False

5. Agriculture and Rural Land-Use Patterns and ProcessesAnswers · 答案

AP Human Geography

1. **commercial agriculture**

Commercial agriculture produces for sale, not just the family.

2. **clustered**

Clustered (nucleated) settlements group homes together.

3. **First (Neolithic) Agricultural Revolution**

The **First (Neolithic) Agricultural Revolution** began farming.

4. **Industrial Revolution**

It applied **Industrial Revolution** machines and transport to farming.

5. **high-yield seed varieties**

High-yield varieties, plus fertiliser and irrigation, drove the Green Revolution.

6. **True**

Yes — rice paddies and market gardens are intensive.

7. **True**

Long-lots ensured every farm had water and transport access.

8. **True**

Wheat, rice, and maize were domesticated in separate hearths.

9. **True**

Machines did the work of many hands, freeing workers for cities.

10. **True**

Higher yields fed fast-growing populations and prevented famine.

5.1 Introduction to Agriculture

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS agriculture 农业 • intensive 集约农业 • extensive 粗放 • subsistence 自给农业 • extensive agriculture 粗放农业

Objective

Build the skills to answer exam questions on **agriculture** 农业 and physical geography.

You must be able to:

- explain how climate and soil shape what can be farmed
- distinguish **intensive** 集约农业 from **extensive agriculture** 粗放农业
- distinguish **subsistence** 自给农业 from **commercial agriculture** 商品农业
- link an example to its type

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Physical limits on farming

Climate, soil, water, and landforms decide what crops or animals an area can support — rice needs warmth and water; wheat suits cooler drier plains.

■ Intensive vs extensive

Intensive agriculture uses much labour or capital on a small area for high output.
Extensive agriculture uses little input over a large area (ranching).

■ Subsistence vs commercial

Subsistence farming feeds the farmer's family. **Commercial** farming produces crops/animals to sell for profit.

2 Practice

2.1 State the difference between intensive and extensive agriculture. [2]

2.2 Explain how climate limits the crops a region can grow. [2]

2.3 A family grows just enough food to feed itself on a small plot.

(a) Is this subsistence or commercial farming? [1]

(b) Is it more likely intensive or extensive? Explain. [1]

3 Exam-style questions

3.1 Cattle ranching on huge areas of dry grassland is best described as [1]

- **A** intensive subsistence
- **B** extensive commercial
- **C** intensive commercial
- **D** plantation

3.2 The main physical factor limiting agriculture in a cold, dry region is its [1]

- **A** relative location
- **B** climate
- **C** sex ratio
- **D** toponym

3.3 A farmer sells all his produce to a national supermarket chain.

(a) Name this type of agriculture. [1]

(b) State one physical factor he must still consider. [1]

Solutions

2.1 intensive = high input (labour/capital) on a small area; extensive = low input over a large area.

2.2 each crop needs certain temperature/rainfall; a region can only grow crops suited to its climate.

2.3 (a) subsistence. (b) intensive — much labour on a small plot for maximum food.

3.1 B. low input over a vast area, for sale = extensive commercial.

3.2 B. climate limits what can grow.

3.3 (a) commercial agriculture. (b) climate/soil/water suited to his crop.

5.2 Settlement Patterns and Survey Methods

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS dispersed 分散型 • clustered 集聚型 • long-lot 长条地块 • linear 线型 • metes-and-bounds 界标法

Objective

Build the skills to answer exam questions on rural **settlement patterns** 聚落格局 and survey methods.

You must be able to:

- distinguish **clustered** 集聚型, **dispersed** 分散型, and **linear** 线型 settlement
- describe **metes-and-bounds** 界标法, **township-and-range** 镇区法, and **long-lot** 长条地块 survey systems
- link a survey system to the landscape it creates
- identify a pattern from a description

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Settlement patterns

Clustered settlements group houses close together; **dispersed** spread them out; **linear** line them along a road or river.

■ Survey systems

Metes-and-bounds uses natural features and descriptions (irregular plots). **Township-and-range** uses a grid of squares. **Long-lot** divides land into narrow strips reaching a river or road.

■ Landscape imprint

Each survey system leaves a distinct **cultural landscape** — irregular fields, a rigid grid, or narrow riverfront strips.

2 Practice

2.1 State the difference between clustered and dispersed settlement. [2]

2.2 Describe the long-lot survey system. [2]

2.3 A region is divided into a rigid grid of square parcels.

(a) Name this survey system. [1]

(b) Name the settlement pattern where farms are spread evenly across it. [1]

3 Exam-style questions

3.1 Houses strung out along a river form a [1]

- **A** clustered settlement
- **B** linear settlement
- **C** dispersed settlement
- **D** primate city

3.2 A survey system using landmarks and verbal descriptions, giving irregular plots, is [1]

- **A** township-and-range
- **B** metes-and-bounds
- **C** long-lot
- **D** the gravity model

3.3 Narrow farm strips each touch a river for water and transport.

(a) Name this survey system. [1]

(b) Explain one advantage it gave farmers. [1]

Solutions

2.1 clustered = houses grouped close together; dispersed = houses spread far apart.

2.2 land divided into long narrow strips each with access to a river or road.

2.3 (a) township-and-range. (b) dispersed.

3.1 B. houses along a line (river/road) = linear settlement.

3.2 B. landmark-based, irregular plots = metes-and-bounds.

3.3 (a) long-lot. (b) each farm had river access for water and shipping goods.

5.3 Agricultural Origins and Diffusions

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS columbian exchange 哥伦布交换 • agricultural hearth 农业起源地 • second agricultural revolution 第二次农业革命 • green revolution 绿色革命 • agriculture 农业

Objective

Build the skills to answer exam questions on **agricultural hearths** 农业起源地 and diffusion.

You must be able to:

- define an **agricultural hearth** 农业起源地
- name a major hearth (e.g. the Fertile Crescent)
- explain how farming diffused from hearths
- define the **Columbian Exchange** 哥伦布交换

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Agricultural hearths

An **agricultural hearth** is a region where farming independently began. Several arose worldwide, including the **Fertile Crescent**, East Asia, and Mesoamerica.

■ Diffusion of farming

From each hearth, crops, animals, and techniques spread by **relocation** (migrating farmers) and **expansion** diffusion to neighbouring regions.

■ The Columbian Exchange

The **Columbian Exchange** was the transfer of crops, animals, and diseases between the Americas and the rest of the world after 1492, reshaping global agriculture.

2 Practice

2.1 Define an agricultural hearth. [2]

2.2 Define the Columbian Exchange. [2]

2.3 Wheat farming began in the Fertile Crescent and later appeared across Europe.

(a) Name the process that carried it to Europe. [1]

(b) State the diffusion type if farmers migrated and brought it. [1]

3 Exam-style questions

3.1 A region where agriculture was first independently developed is an agricultural [1]

- A region
- B hearth
- C landscape
- D boundary

3.2 The movement of potatoes to Europe and horses to the Americas is part of the [1]

- A Green Revolution
- B Columbian Exchange
- C Second Agricultural Revolution
- D gravity model

3.3 Maize, first grown in Mesoamerica, is now farmed worldwide.

(a) What does this show about the crop's hearth? [1]

(b) Explain how diffusion spread it globally. [1]

Solutions

2.1 a region where agriculture independently originated and from which it spread.

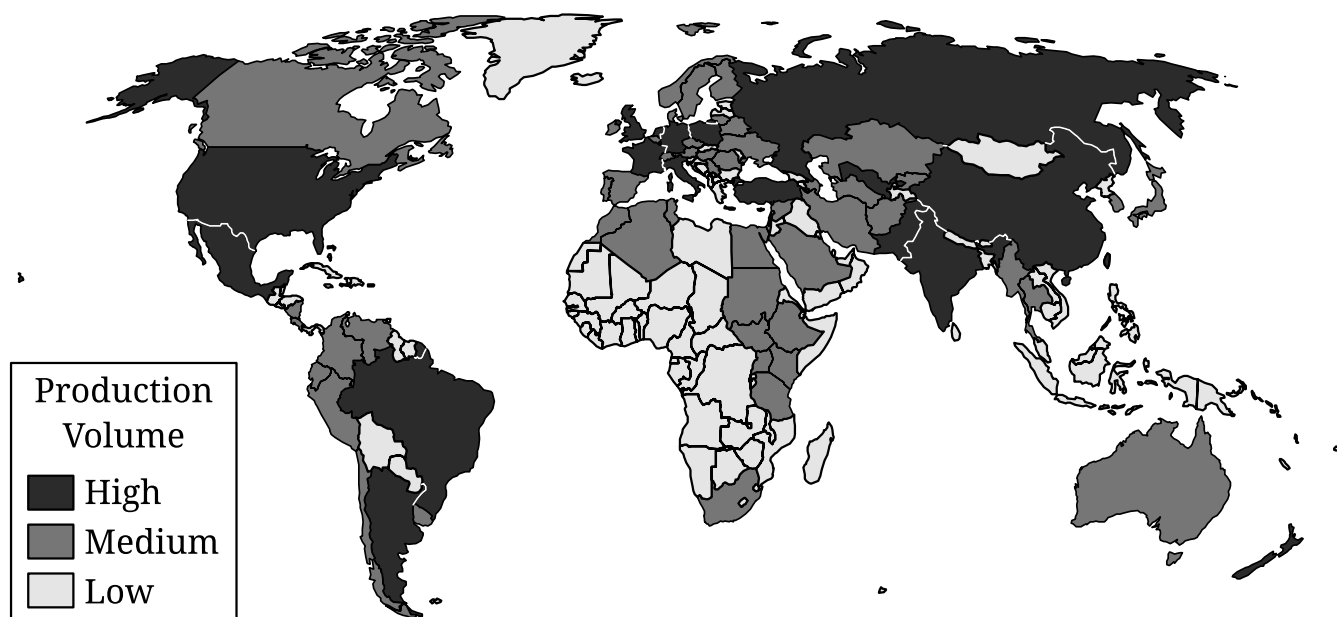
2.2 the exchange of crops, animals, and diseases between the Americas and the rest of the world after 1492.

2.3 (a) diffusion (from the hearth). (b) relocation diffusion.

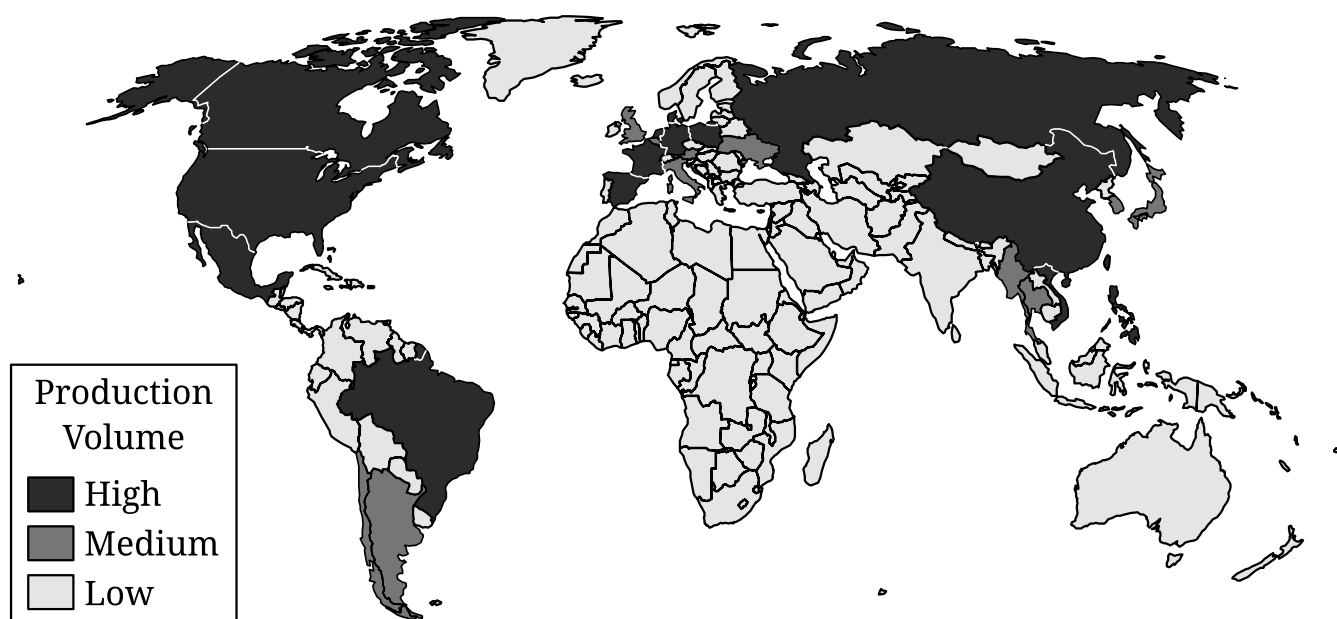
3.1 B. the origin region is an agricultural hearth.

3.2 B. post-1492 crop/animal transfer = Columbian Exchange.

3.3 (a) it originated (was domesticated) there. (b) it spread through trade, migration, and later the Columbian Exchange.

Map 1: Cow's Milk Production, 2018

Source: Food and Agriculture Organization

Map 2: Pork Production, 2018

Source: Food and Agriculture Organization

3. The global production of cow's milk and pork results in distinctive spatial patterns of contemporary agriculture and land use.

Respond to parts A, B, C, D, E, F, and G.

- A. Identify an example of a culture trait.
- B. Describe the spatial pattern of cow's milk production in Africa, shown in Map 1.
- C. Based on Map 1 and Map 2, compare the spatial patterns of cow's milk production and pork production in Asia. (Response must include both maps in the comparison.)
- D. Describe one environmental effect of agricultural land use such as commercial animal farms.
- E. Explain how the globalization of agriculture may affect local culture traits.
- F. Explain why regions of agricultural production may become interdependent.
- G. Explain how domesticated animals such as pigs spatially diffused to create the spatial pattern shown on Map 2.

STOP

END OF EXAM

Question 2

**PER CAPITA PRODUCTION OF STAPLE FOOD CROPS
IN HEARTH-OF-DOMESTICATION COUNTRIES**

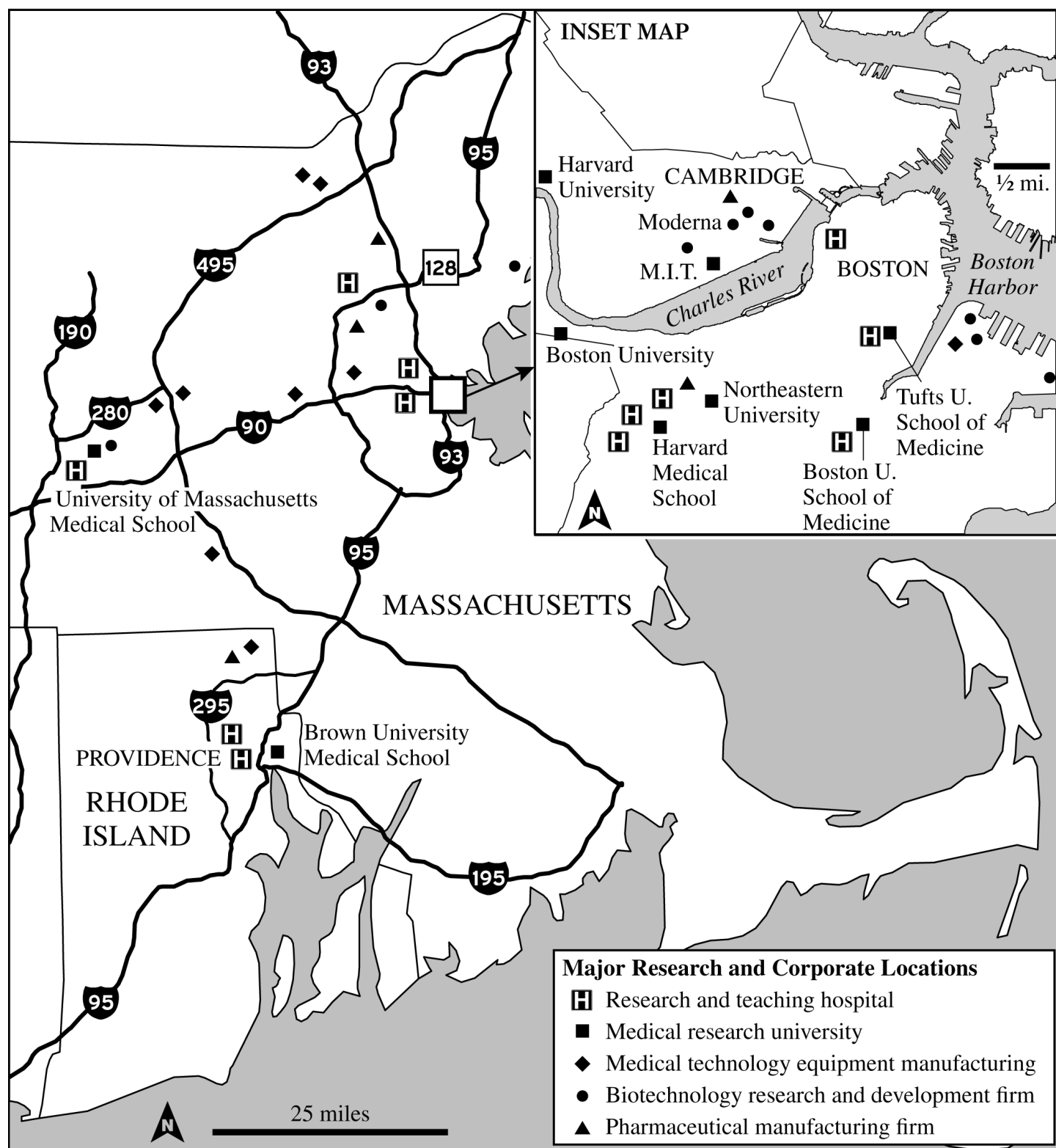
Country	Corn (maize) (pounds per capita)	Potato (pounds per capita)	Rice (pounds per capita)	Yam (pounds per capita)	Cassava (manioc or yuca) (pounds per capita)
	Hearth: Mexico	Hearth: Peru	Hearths: China and Mali	Hearth: Niger River basin	Hearth: Amazon River basin
Brazil	1,056	39	108	3	183
China	412	145	333	0	52
Mexico	471	31	4	0	0
Nigeria	121	15	93	549	618
Peru	107	362	216	0	13

Source: Food and Agriculture Organization of the United Nations

2. Staple food crops provide most of the carbohydrates in people's diets, and some staples are also used as animal feed or in the distillation of ethanol. Cassava is a root crop (tuber) that is the source of farinha, tapioca, and the pearls in bubble tea.
- A. Describe the concept of an early hearth of domestication.
 - B. Identify the crop listed in the table that has diffused the least from its hearth of domestication to the countries listed in the table.
 - C. Explain how food preferences can be a culture trait.
 - D. Explain how the Columbian Exchange contributed to a crop's diffusion beyond its hearth of domestication.
 - E. Explain how the data in the table support the concept of a crop's consumption pattern being the result of globalization.
 - F. Explain why a crop may be farmed intensively in a less developed country and be farmed extensively in a more developed country.
 - G. Explain ONE way the global supply chain links crops such as those listed in the table to consumers in other countries.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 3

MAJOR MEDICAL AND BIOTECHNOLOGY COMPANIES AND INSTITUTIONS IN THE BOSTON AND PROVIDENCE REGION

Source: National Institutes of Health

The inset map shows the downtown areas of Boston and Cambridge, Massachusetts.

5.4 The Second Agricultural Revolution

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS second agricultural revolution 第二次农业革命 • industrial revolution 工业革命 • green revolution 绿色革命
• von thünen model 冯 · 杜能模型

Objective

Build the skills to answer exam questions on the **Second Agricultural Revolution** 第二次农业革命.

You must be able to:

- describe the changes of the Second Agricultural Revolution
- link it to the **Industrial Revolution** 工业革命
- explain how it raised yields and freed labour
- state one social consequence

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ What changed

The **Second Agricultural Revolution** brought new tools, crop rotation, selective breeding, and later machinery, greatly raising food output.

■ Link to industry

It coincided with the **Industrial Revolution**: more food fed growing cities, and fewer farmers were needed, freeing labour for factories.

■ Consequences

Higher yields supported population growth and **urbanization** as people left farms for industrial cities.

2 Practice

2.1 State two changes brought by the Second Agricultural Revolution. [2]

2.2 Explain how it connected to the Industrial Revolution. [2]

2.3 Food output rose sharply and many farm workers moved to cities.

(a) Name the process of people moving to cities. [1]

(b) Explain how higher yields made it possible. [1]

3 Exam-style questions

3.1 The Second Agricultural Revolution is most closely linked to the [1]

- **A** Columbian Exchange
 - **B** Industrial Revolution
 - **C** Green Revolution
 - **D** Von Thünen model
-

3.2 A direct effect of higher agricultural yields was [1]

- **A** fewer people could be fed
 - **B** population growth and urbanization
 - **C** a return to subsistence farming
 - **D** lower life expectancy
-

3.3 New machinery let one farmer do the work of many.

(a) State the effect on the number of farm workers needed. [1]

(b) State where the freed workers tended to go. [1]

Solutions

2.1 any two of: crop rotation, selective breeding, improved tools/machinery, enclosure.

2.2 more food fed growing cities; fewer farmers were needed, freeing workers for factories.

2.3 (a) urbanization. (b) fewer farmers could feed more people, so surplus labour moved to cities.

3.1 B. it coincided with and supported the Industrial Revolution.

3.2 B. more food supported population growth and urban migration.

3.3 (a) fewer farm workers were needed. (b) to industrial cities/factories.

5.5 The Green Revolution

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS green revolution 绿色革命 • high-yield seeds 高产种子

Objective

Build the skills to answer exam questions on the **Green Revolution** 绿色革命.

You must be able to:

- describe the Green Revolution's methods (**high-yield seeds** 高产种子, fertilizers, irrigation)
- state its main benefit
- state two drawbacks
- evaluate its uneven global impact

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Green Revolution methods

The **Green Revolution** (mid-20th century) introduced **high-yield seed varieties**, chemical fertilizers, pesticides, and irrigation to boost food production.

■ Benefits

It hugely increased yields of staples like wheat and rice, helping avoid famine and feed growing populations, especially in Asia and Latin America.

■ Drawbacks

It needs costly inputs (poor farmers can be left out), can damage soil and water, reduces crop diversity, and had little impact in some regions like much of Africa.

2 Practice

2.1 State two methods of the Green Revolution. [2]

2.2 State one benefit and one drawback of the Green Revolution. [2]

2.3 A poor farmer cannot afford the seeds and fertilizer the Green Revolution requires.

(a) State the drawback this illustrates. [1]

(b) Explain why yields still rose overall. [1]

3 Exam-style questions

3.1 The Green Revolution mainly increased the yields of [1]

- **A** luxury export crops
- **B** staple grains like wheat and rice
- **C** livestock only
- **D** cash flowers

3.2 A common environmental criticism of the Green Revolution is [1]

- **A** it used no water
- **B** it damaged soil and water through chemicals
- **C** it lowered all yields
- **D** it ended irrigation

3.3 The Green Revolution transformed farming in Asia but barely reached parts of Africa.

(a) State one reason for this uneven impact. [1]

(b) Explain one lasting benefit where it did take hold. [1]

Solutions

2.1 any two of: high-yield seeds, chemical fertilizers, pesticides, irrigation.

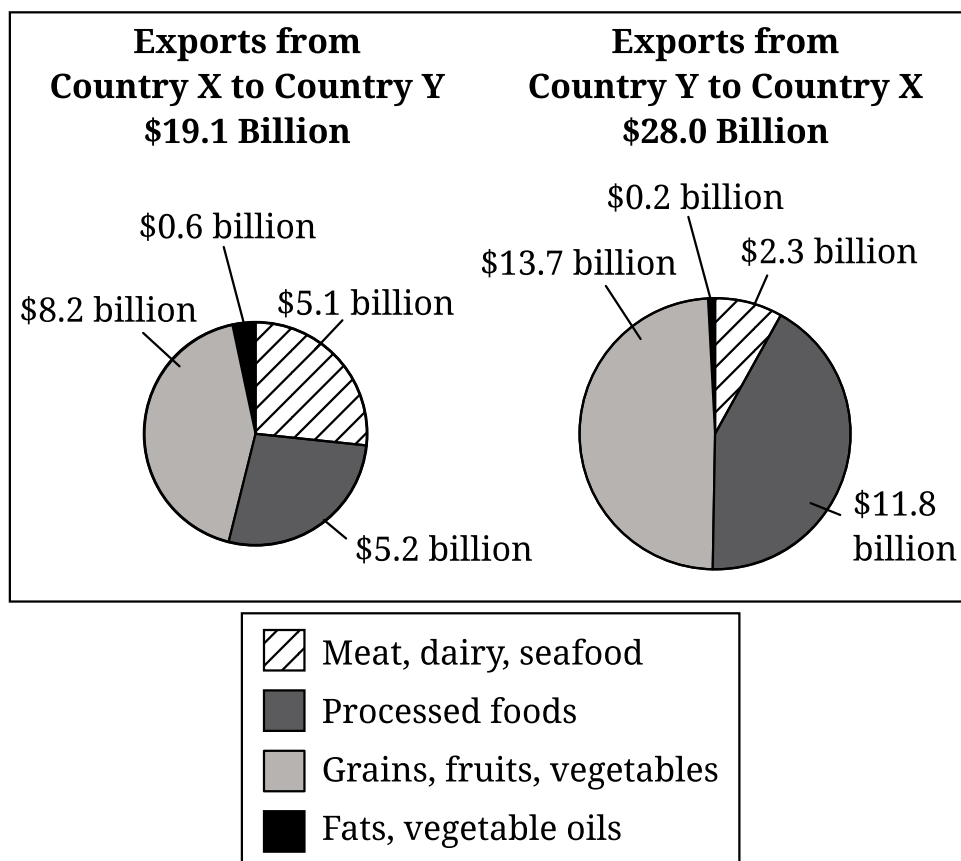
2.2 benefit: much higher yields / avoided famine; drawback: costly inputs, environmental harm, or lost crop diversity.

2.3 (a) high input costs exclude poor farmers / widen inequality. (b) larger/richer farms adopted it and raised total output.

3.1 B. it boosted staple grains (wheat, rice).

3.2 B. heavy chemical/irrigation use can degrade soil and water.

3.3 (a) lack of infrastructure, credit, water, or suitable seeds in some regions. (b) far higher food output helped feed growing populations and cut famine.

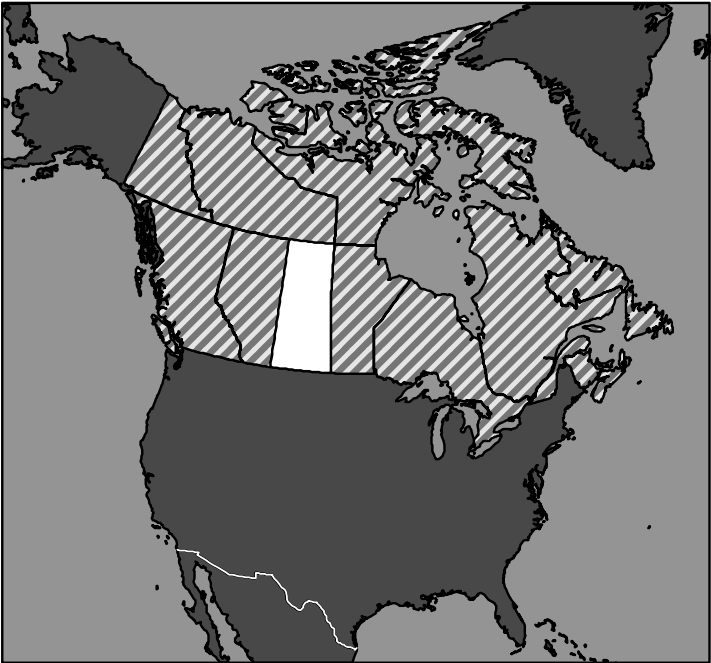
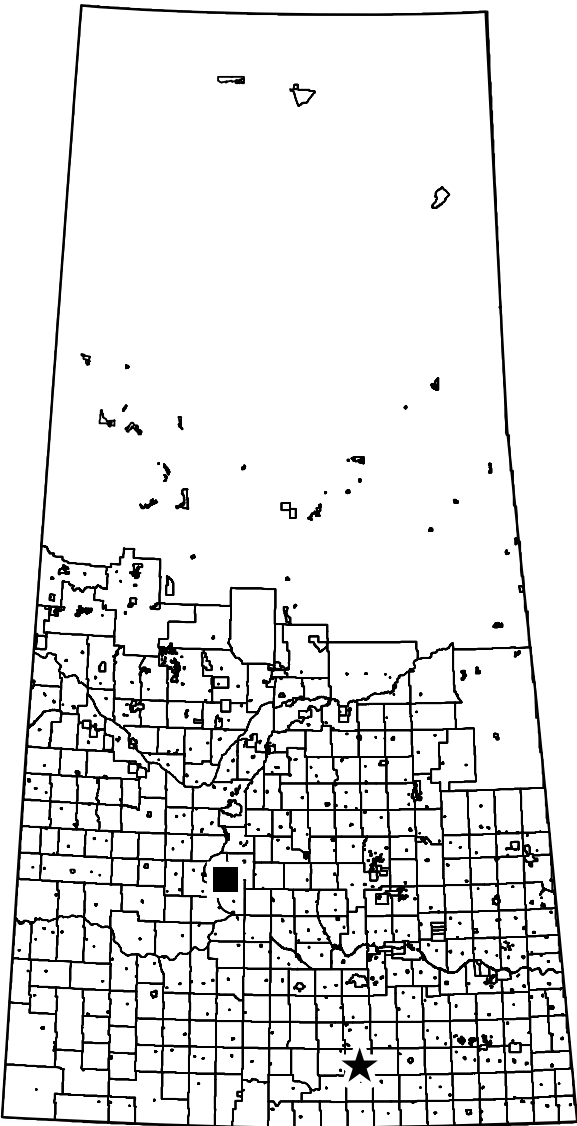
Food Exports Between Country X and Country Y

2. Country X and Country Y have a long-established trade relationship in agricultural products. Country X is a developed country, and Country Y is a developing country.

Respond to parts A, B, C, D, E, F, and G.

- Using the data in the charts, identify the largest food export category between the two countries.
- Using the data in the charts, describe the difference between the two countries in the meat, dairy, and seafood category.
- Define the concept of comparative advantage.
- Describe one effect of Green Revolution technologies on food supplies in developing countries.
- Explain how advances in agricultural technology may increase the carrying capacity of land.
- Explain the degree to which the economies of Country X and Country Y are interdependent. (Response must indicate the degree [low, moderate, high] and provide an explanation.)
- Explain how the charts provide limited information about economic development.

Map 1: Political Divisions in Saskatchewan, Canada



- Saskatchewan
- Other Canadian provinces and territories
- Other countries

0 100 miles

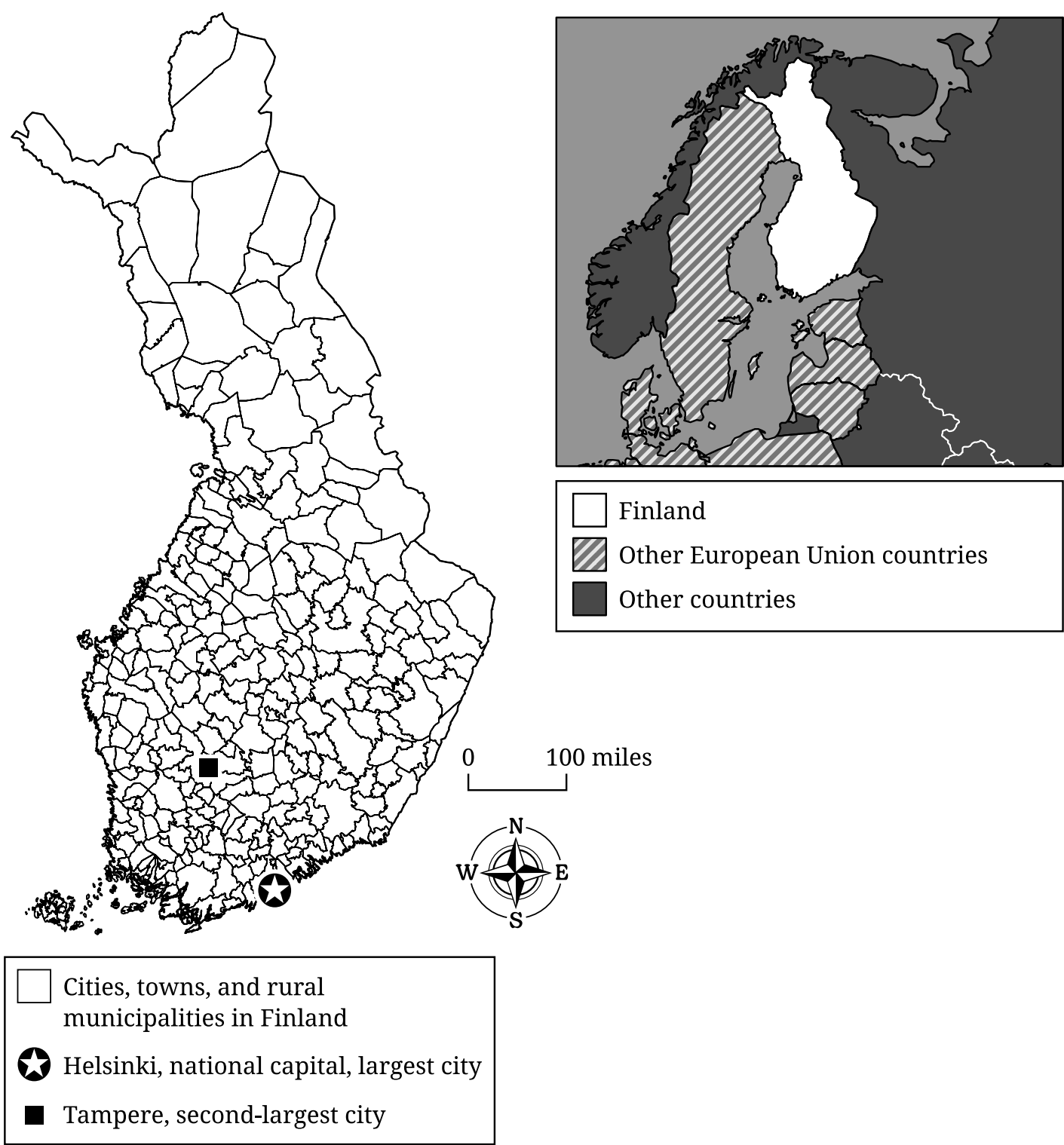


- Cities, towns, and rural municipalities in Saskatchewan
- ★

 Regina, provincial capital, second-largest city
- Saskatoon, largest city

Source: Statistics Canada

Map 2: Political Divisions in Finland



Source: ESRI Data Partners

HUMAN GEOGRAPHY**SECTION II****Time—1 hour and 15 minutes****3 Questions**

Directions: You have 1 hour and 15 minutes to answer all three of the following questions. It is recommended that you spend approximately one-third of your time (25 minutes) on each question. It is suggested that you take up to 5 minutes of this time to plan and outline each answer. You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

Question 1

1. The availability of food in the context of a growing world population is influenced by many social, environmental, and economic factors.
 - A. Define the concept of carrying capacity.
 - B. Describe ONE way that humans have altered the environmental sustainability of agricultural lands.
 - C. Explain how transportation technology has increased economies of scale in the agricultural sector of less developed countries.
 - D. Explain a likely negative economic outcome of Green Revolution agricultural practices on rural communities.
 - E. Explain ONE weakness of Malthusian theory in predicting the relationship between food production and population growth in contemporary society.
 - F. Explain how surplus food production has changed the global market for local agricultural products.
 - G. Explain the degree to which Green Revolution agricultural practices were effective in reducing hunger in less developed countries. (Response must indicate the degree [low, moderate, high] and provide an explanation.)

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

5.6 Agricultural Production Regions

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS pastoral nomadism 游牧 • plantation 种植园 • market gardening 商品园艺 • shifting cultivation 迁移农业
 • agricultural production regions 农业生产区

Objective

Build the skills to answer exam questions on **agricultural production regions** 农业生产区.

You must be able to:

- classify farming as subsistence or commercial and intensive or extensive
- describe **shifting cultivation** 迁移农业 and **pastoral nomadism** 游牧
- describe **plantation** 种植园 and **market gardening** 商品园艺 agriculture
- match an example to its region type

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Two axes

Farming is classified by purpose (**subsistence** vs **commercial**) and by input (**intensive** vs **extensive**).

■ Subsistence types

Shifting cultivation clears and farms a plot, then moves on as soil tires. **Pastoral nomadism** herds animals across dry lands, moving to find pasture.

■ Commercial types

A **plantation** grows one cash crop for export with much labour. **Market gardening** grows fruit and vegetables intensively near cities for sale.

2 Practice

2.1 Describe pastoral nomadism. [2]

2.2 State whether a plantation is subsistence or commercial, and intensive or extensive. [2]

2.3 Farmers clear a patch of forest, grow crops for a few years, then move to a new patch.

(a) Name this farming type. [1]

(b) Explain why they must keep moving. [1]

3 Exam-style questions

3.1 Growing vegetables intensively on small plots near a city to sell fresh is [1]

- **A** pastoral nomadism
- **B** market gardening
- **C** shifting cultivation
- **D** plantation farming

3.2 Herders moving animals across dry grasslands practise [1]

- **A** plantation agriculture
- **B** pastoral nomadism
- **C** market gardening
- **D** monoculture

3.3 A large estate grows only coffee for export using many workers.

(a) Name this agricultural type. [1]

(b) Classify it on both axes (subsistence/commercial, intensive/extensive). [1]

Solutions

2.1 herding livestock and moving seasonally to find pasture/water in dry lands.

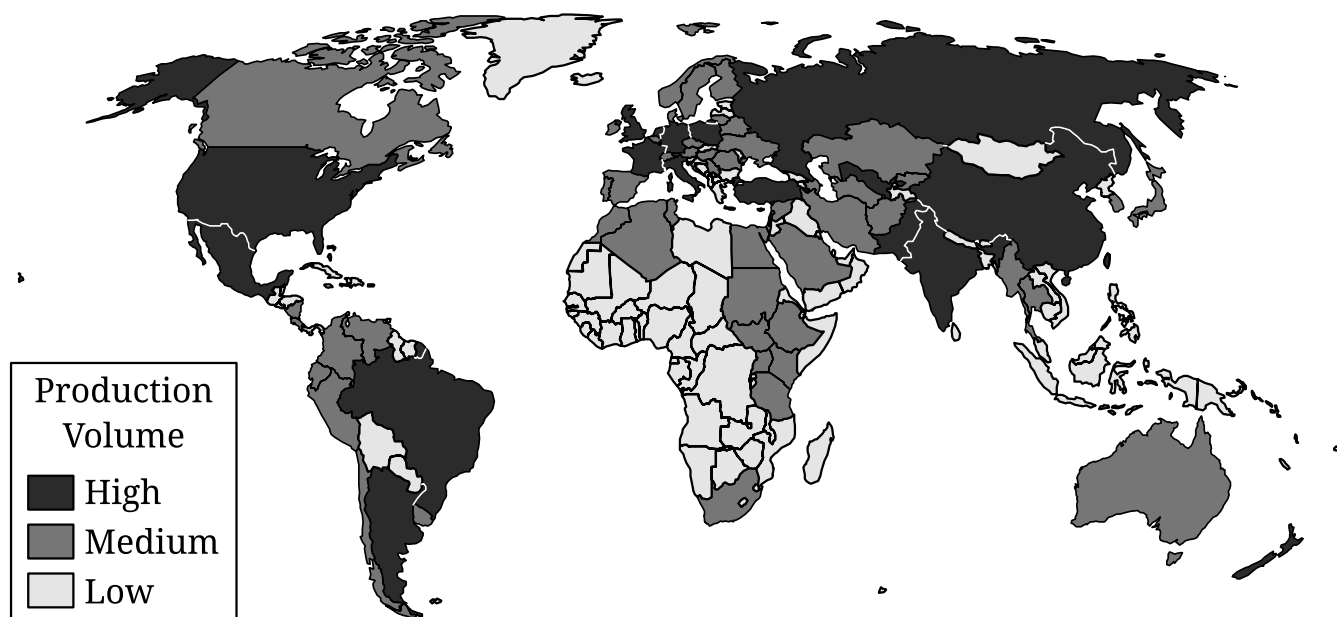
2.2 commercial (grown for sale/export); intensive (much labour on the crop).

2.3 (a) shifting cultivation. (b) the soil loses fertility after a few years, so they move to fresh land.

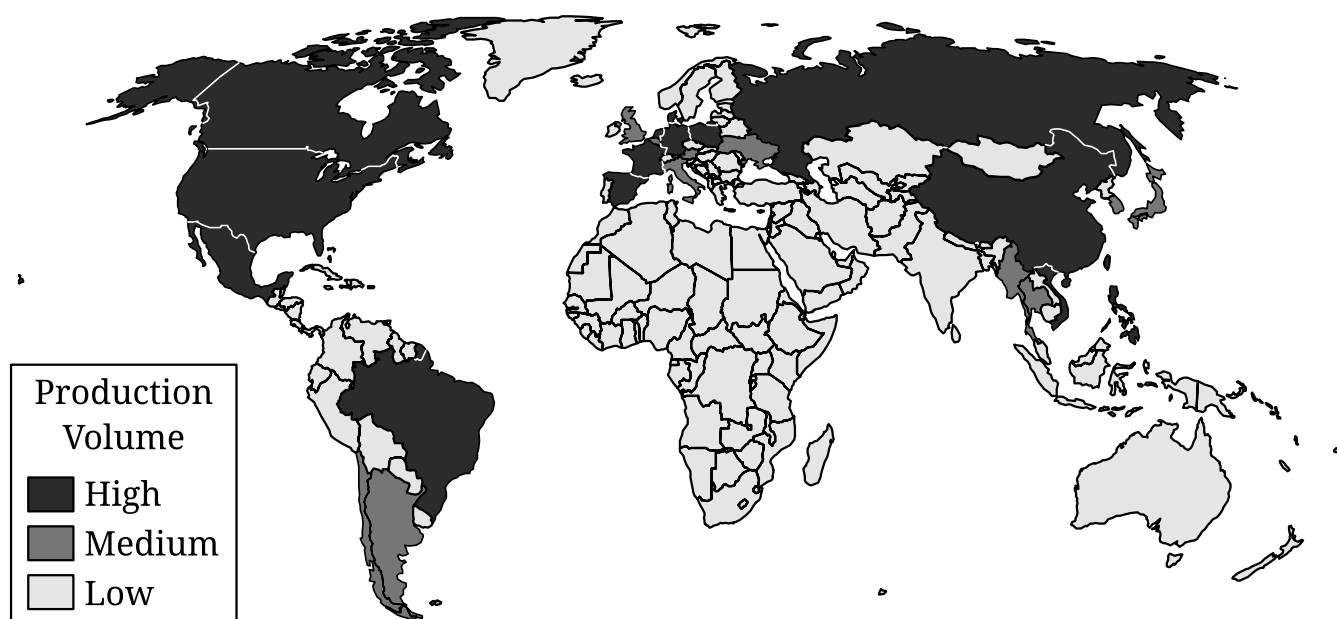
3.1 B. intensive fruit/veg near cities for sale = market gardening.

3.2 B. moving livestock for pasture = pastoral nomadism.

3.3 (a) plantation agriculture. (b) commercial and intensive.

Map 1: Cow's Milk Production, 2018

Source: Food and Agriculture Organization

Map 2: Pork Production, 2018

Source: Food and Agriculture Organization

3. The global production of cow's milk and pork results in distinctive spatial patterns of contemporary agriculture and land use.

Respond to parts A, B, C, D, E, F, and G.

- A. Identify an example of a culture trait.
- B. Describe the spatial pattern of cow's milk production in Africa, shown in Map 1.
- C. Based on Map 1 and Map 2, compare the spatial patterns of cow's milk production and pork production in Asia. (Response must include both maps in the comparison.)
- D. Describe one environmental effect of agricultural land use such as commercial animal farms.
- E. Explain how the globalization of agriculture may affect local culture traits.
- F. Explain why regions of agricultural production may become interdependent.
- G. Explain how domesticated animals such as pigs spatially diffused to create the spatial pattern shown on Map 2.

STOP

END OF EXAM

Question 2

PER CAPITA PRODUCTION OF STAPLE FOOD CROPS
IN HEARTH-OF-DOMESTICATION COUNTRIES

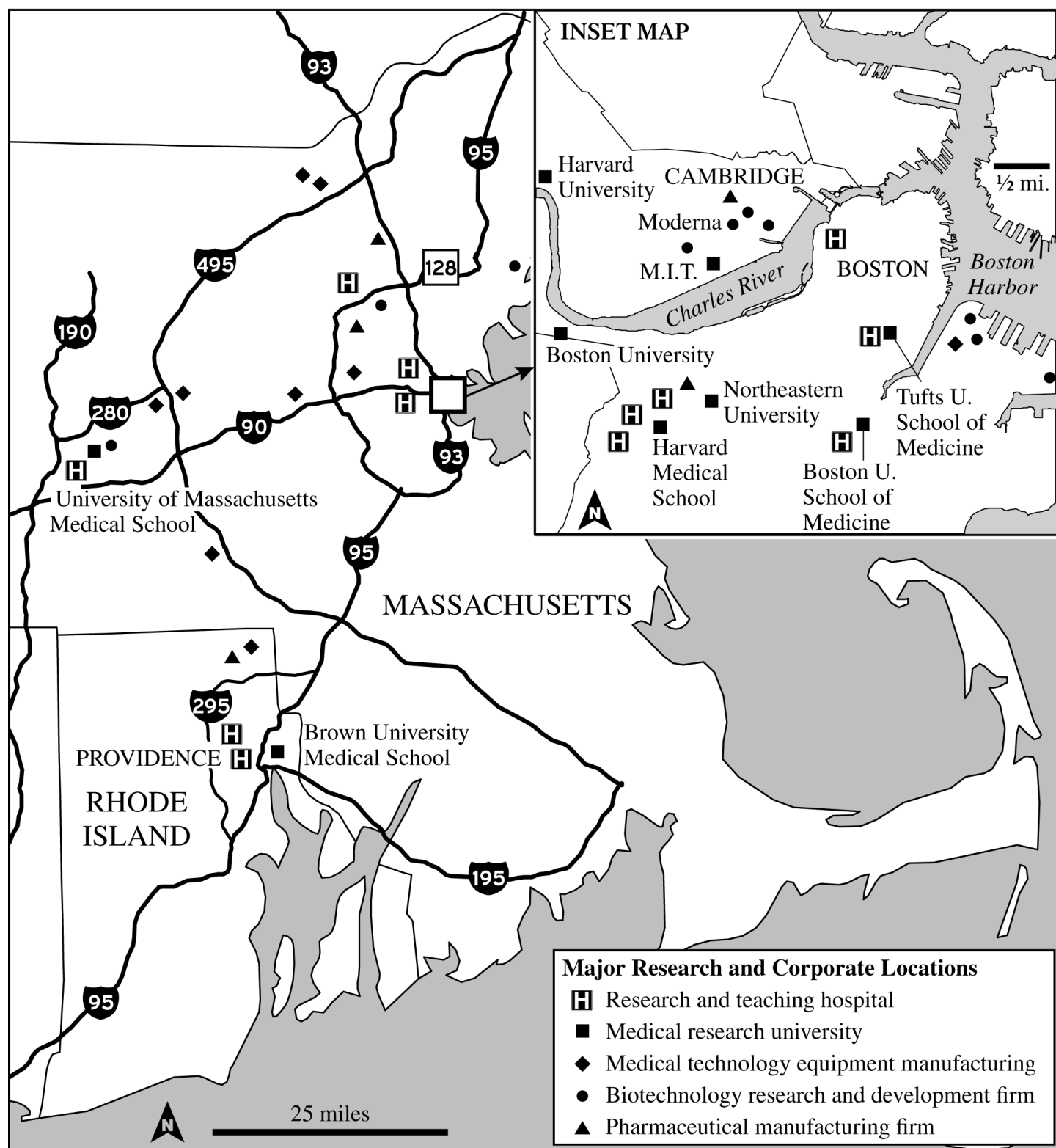
Country	Corn (maize) (pounds per capita)	Potato (pounds per capita)	Rice (pounds per capita)	Yam (pounds per capita)	Cassava (manioc or yuca) (pounds per capita)
	Hearth: Mexico	Hearth: Peru	Hearths: China and Mali	Hearth: Niger River basin	Hearth: Amazon River basin
Brazil	1,056	39	108	3	183
China	412	145	333	0	52
Mexico	471	31	4	0	0
Nigeria	121	15	93	549	618
Peru	107	362	216	0	13

Source: Food and Agriculture Organization of the United Nations

2. Staple food crops provide most of the carbohydrates in people’s diets, and some staples are also used as animal feed or in the distillation of ethanol. Cassava is a root crop (tuber) that is the source of farinha, tapioca, and the pearls in bubble tea.
- A. Describe the concept of an early hearth of domestication.
 - B. Identify the crop listed in the table that has diffused the least from its hearth of domestication to the countries listed in the table.
 - C. Explain how food preferences can be a culture trait.
 - D. Explain how the Columbian Exchange contributed to a crop’s diffusion beyond its hearth of domestication.
 - E. Explain how the data in the table support the concept of a crop’s consumption pattern being the result of globalization.
 - F. Explain why a crop may be farmed intensively in a less developed country and be farmed extensively in a more developed country.
 - G. Explain ONE way the global supply chain links crops such as those listed in the table to consumers in other countries.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 3

MAJOR MEDICAL AND BIOTECHNOLOGY COMPANIES AND INSTITUTIONS IN THE BOSTON AND PROVIDENCE REGION

Source: National Institutes of Health

The inset map shows the downtown areas of Boston and Cambridge, Massachusetts.

3. Pastoral nomadism is widely practiced in the Sahel region of Africa. The map and table provide information about spatial patterns and social tensions associated with this type of agriculture.
- A. Describe ONE reason for the migration patterns shown on the map.
 - B. Describe ONE cause of desertification in the Sahel region.
 - C. Explain how pastoral nomadism may affect the cultural landscape of the Sahel region.
 - D. Explain ONE way mixed-crop farming could be affected by climatic conditions.
 - E. Using the map and table, explain why expanding protected natural areas may affect the migration routes of nomadic herders in the Sahel region.
 - F. Using the information in the table, explain why farmers' increased use of irrigation may increase conflicts with nomadic herders.
 - G. Explain the degree to which increased access to communication technologies may create cultural convergence among nomadic herders.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

5.7 Spatial Organization of Agriculture

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS economies of scale 规模经济 • agribusiness 农业综合企业 • commodity chain 商品链
• monoculture 单一栽培 • spatial organization of agriculture 农业的空间组织

Objective

Build the skills to answer exam questions on the **spatial organization of agriculture** 农业的空间组织 and agribusiness.

You must be able to:

- define **agribusiness** 农业综合企业 and the **commodity chain** 商品链
- explain **economies of scale** 规模经济 in farming
- define **monoculture** 单一栽培 and state a risk
- link large-scale farming to lower costs

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Agribusiness and commodity chains

Agribusiness is the large-scale, integrated business of farming — seeds, growing, processing, and selling. A **commodity chain** links every step from farm to consumer.

■ Economies of scale

Large farms achieve **economies of scale**: producing in bulk lowers the cost per unit, so big commercial operations outcompete small ones.

■ Monoculture

Monoculture grows a single crop over a large area. It is efficient but risky — one pest or price crash can devastate the whole harvest.

2 Practice

2.1 Define agribusiness. [2]

2.2 Explain economies of scale in commercial farming. [2]

2.3 A huge farm plants only one crop across all its land.

(a) Name this practice. [1]

(b) State one risk it creates. [1]

3 Exam-style questions

3.1 The full set of steps linking a farm product to the final consumer is a [1]

- **A** commodity chain
 - **B** relict boundary
 - **C** gravity model
 - **D** long-lot
-

3.2 Large farms can undercut small farms mainly because of [1]

- **A** higher costs per unit
 - **B** economies of scale
 - **C** monoculture risk
 - **D** distance decay
-

3.3 An agribusiness controls seeds, farming, processing, and shipping.

(a) State one advantage of this integration. [1]

(b) State one concern for small independent farmers. [1]

Solutions

2.1 the large-scale commercial business of agriculture integrating production, processing, and distribution.

2.2 producing in large quantities lowers the cost per unit of output.

2.3 (a) monoculture. (b) a single pest, disease, or price crash can wipe out the whole harvest.

3.1 A. farm-to-consumer steps = commodity chain.

3.2 B. bulk production lowers cost per unit = economies of scale.

3.3 (a) lower costs / control of the whole chain / reliable supply. (b) they cannot compete on price and may be squeezed out.

Question 2

**PER CAPITA PRODUCTION OF STAPLE FOOD CROPS
IN HEARTH-OF-DOMESTICATION COUNTRIES**

Country	Corn (maize) (pounds per capita)	Potato (pounds per capita)	Rice (pounds per capita)	Yam (pounds per capita)	Cassava (manioc or yuca) (pounds per capita)
	Hearth: Mexico	Hearth: Peru	Hearths: China and Mali	Hearth: Niger River basin	Hearth: Amazon River basin
Brazil	1,056	39	108	3	183
China	412	145	333	0	52
Mexico	471	31	4	0	0
Nigeria	121	15	93	549	618
Peru	107	362	216	0	13

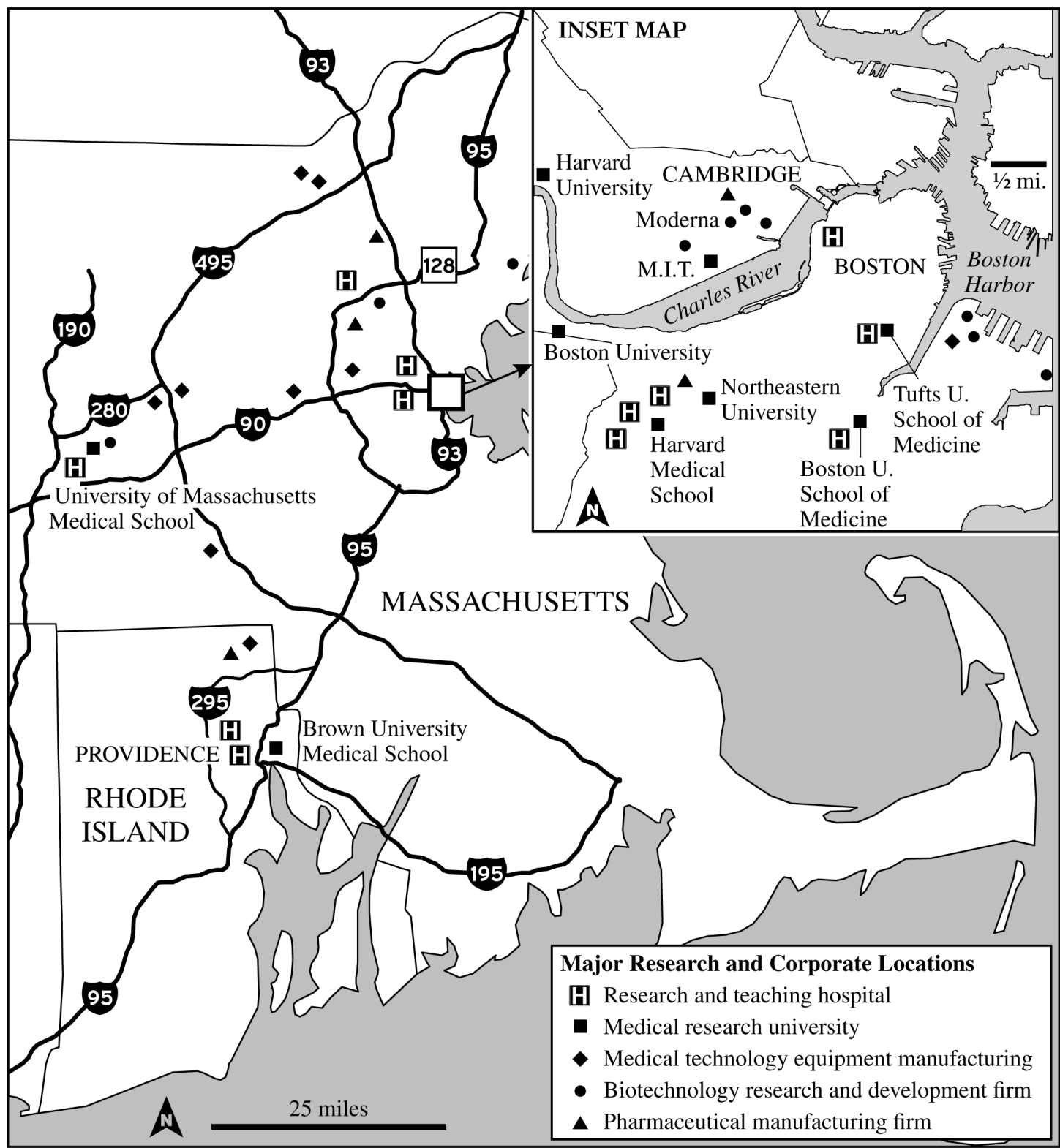
Source: Food and Agriculture Organization of the United Nations

2. Staple food crops provide most of the carbohydrates in people's diets, and some staples are also used as animal feed or in the distillation of ethanol. Cassava is a root crop (tuber) that is the source of farinha, tapioca, and the pearls in bubble tea.
- A. Describe the concept of an early hearth of domestication.
 - B. Identify the crop listed in the table that has diffused the least from its hearth of domestication to the countries listed in the table.
 - C. Explain how food preferences can be a culture trait.
 - D. Explain how the Columbian Exchange contributed to a crop's diffusion beyond its hearth of domestication.
 - E. Explain how the data in the table support the concept of a crop's consumption pattern being the result of globalization.
 - F. Explain why a crop may be farmed intensively in a less developed country and be farmed extensively in a more developed country.
 - G. Explain ONE way the global supply chain links crops such as those listed in the table to consumers in other countries.

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Question 3

MAJOR MEDICAL AND BIOTECHNOLOGY COMPANIES AND INSTITUTIONS IN THE BOSTON AND PROVIDENCE REGION



Source: National Institutes of Health

The inset map shows the downtown areas of Boston and Cambridge, Massachusetts.

5.8 Von Thünen Model

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS von thünen model 冯·杜能模型 • transport cost 运输成本 • extensive 粗放

Objective

Build the skills to answer exam questions on the **Von Thünen model** 冯·杜能模型 of land use.

You must be able to:

- state the Von Thünen model's key assumption
- describe the order of the land-use rings
- explain how **transport cost** 运输成本 shapes the rings
- state one limitation of the model

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ The model

The **Von Thünen model** predicts farm land use around a central market. Its key driver is **transport cost**: perishable or heavy goods locate close to market, cheaper-to-move goods farther out.

■ The rings

From the centre outward: **market gardening/dairy** (perishable), **forest** (heavy fuel/timber, historically), **field crops/grain**, then **ranching/livestock** on the outer ring.

■ Limitations

It assumes a flat, uniform land with one market and no roads or rivers — real geography, refrigeration, and transport change the pattern.

2 Practice

2.1 State the main factor that determines land use in the Von Thünen model. [2]

2.2 Explain why perishable goods like dairy locate near the market. [2]

2.3 A modern region uses refrigerated trucks and highways.

(a) State one Von Thünen assumption this breaks. [1]

(b) Explain how it changes the ring pattern. [1]

3 Exam-style questions

3.1 In the Von Thünen model, ranching and livestock are located [1]

- **A** nearest the market
 - **B** in the outermost ring
 - **C** in the forest ring
 - **D** at the exact centre
-

3.2 The Von Thünen model's central assumption is that transport cost rises with [1]

- **A** population
 - **B** distance from the market
 - **C** soil quality
 - **D** rainfall
-

3.3 Dairy farms cluster close to a city in the model.

(a) Explain why, using transport cost. [1]

(b) State one real-world factor the model ignores. [1]

Solutions

2.1 transport cost to the central market; perishability/weight of the product.

2.2 they spoil quickly and are costly to transport; being close cuts transport time/cost/spoilage.

2.3 (a) uniform transport / no roads / perishables must be near market. (b) perishables can be grown farther out, so the neat rings break down.

3.1 B. cheap-to-move, land-extensive ranching sits in the outer ring.

3.2 B. transport cost increases with distance to market.

3.3 (a) milk is perishable and costly to move, so it is produced near the market. (b) roads/rivers, refrigeration, varied terrain, or multiple markets.

5.9 The Global System of Agriculture

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS global supply chain 全球供应链 • fair trade 公平贸易 • global system of agriculture 全球农业体系
• food export dependence 粮食出口依赖 • agriculture 农业

Objective

Build the skills to answer exam questions on the **global system of agriculture** 全球农业体系.

You must be able to:

- explain how food is now traded in global supply chains
- define **food export dependence** 粮食出口依赖
- explain **fair trade** 公平贸易
- state one benefit and one risk of global food trade

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Global supply chains

Food now moves through **global supply chains**: a crop grown in one country is processed in another and sold worldwide, linking distant producers and consumers.

■ Export dependence

Some countries rely heavily on exporting one or two farm commodities. This **export dependence** makes them vulnerable to world price swings.

■ Fair trade

Fair trade aims to pay producers in poorer countries a fairer, more stable price, improving their livelihoods.

2 Practice

2.1 Explain what a global food supply chain is. [2]

2.2 Explain the risk of depending on one export crop. [2]

2.3 A cooperative sells coffee under a fair-trade label.

(a) State the aim of fair trade. [1]

(b) State one benefit to the farmers. [1]

3 Exam-style questions

3.1 A country whose economy depends on exporting a single farm commodity is vulnerable to [1]

- **A** stable prices
- **B** world price swings for that commodity
- **C** too much crop diversity
- **D** low transport costs

3.2 Fair trade primarily aims to [1]

- **A** lower all food prices
- **B** give producers in poorer countries a fairer price
- **C** end global trade
- **D** increase monoculture

3.3 Fresh fruit in a winter supermarket was grown on another continent.

(a) State what this shows about the food system. [1]

(b) State one drawback of such long supply chains.

[1]

Solutions

2.1 food is grown, processed, and sold across different countries, linking distant producers and consumers.

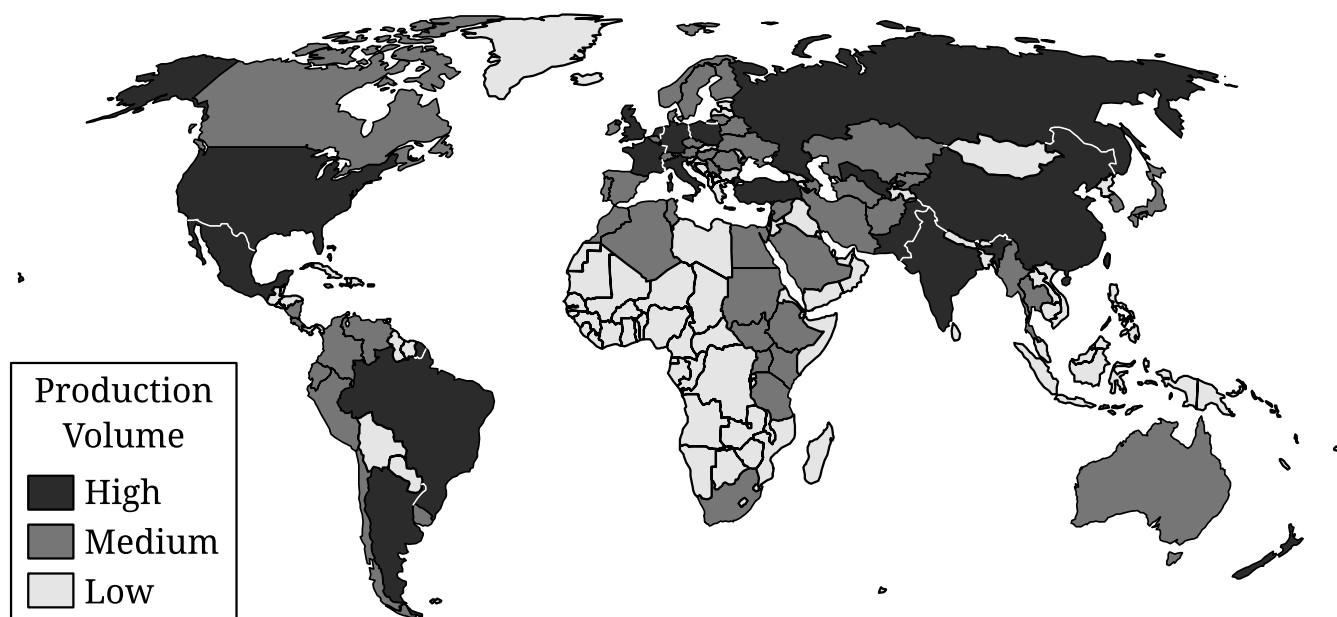
2.2 the economy relies on one commodity; a fall in its world price can badly hurt the country.

2.3 (a) to pay producers a fairer, more stable price. (b) higher/steadier income and better livelihoods.

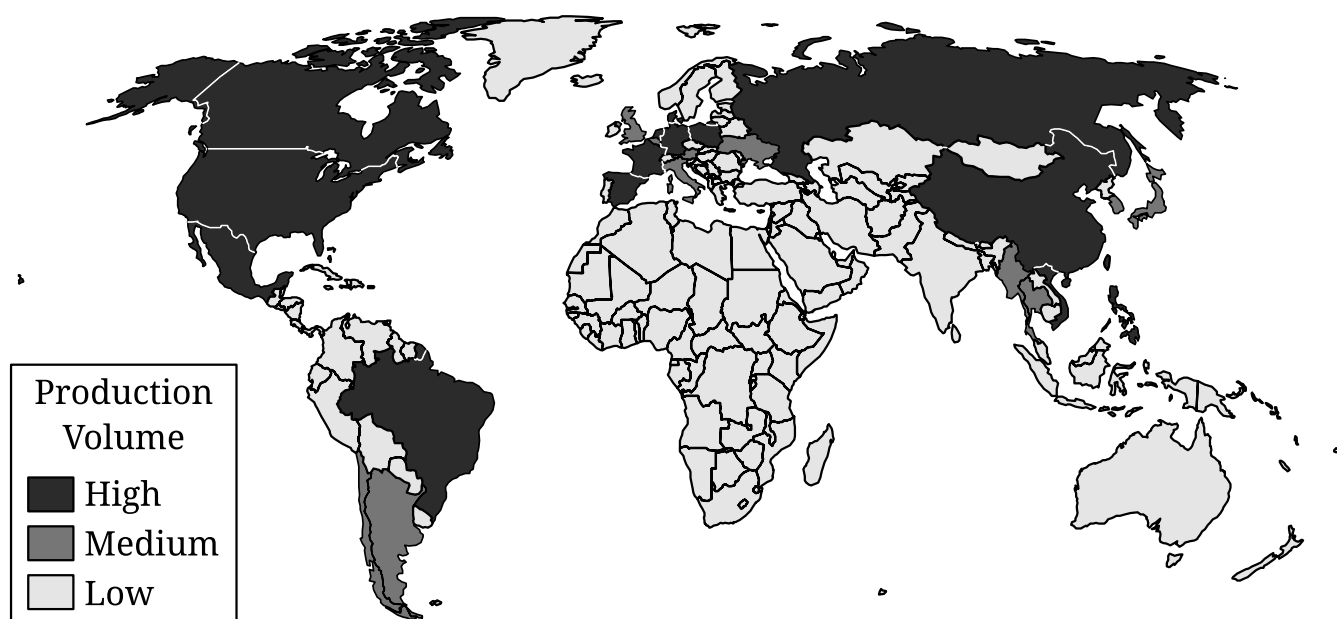
3.1 B. reliance on one export exposes it to that crop's price swings.

3.2 B. fair trade secures a fairer price for producers.

3.3 (a) it is globalized — food travels far through global supply chains. (b) high transport emissions, spoilage risk, or dependence on distant producers.

Map 1: Cow's Milk Production, 2018

Source: Food and Agriculture Organization

Map 2: Pork Production, 2018

Source: Food and Agriculture Organization

3. The global production of cow's milk and pork results in distinctive spatial patterns of contemporary agriculture and land use.

Respond to parts A, B, C, D, E, F, and G.

- A. Identify an example of a culture trait.
- B. Describe the spatial pattern of cow's milk production in Africa, shown in Map 1.
- C. Based on Map 1 and Map 2, compare the spatial patterns of cow's milk production and pork production in Asia. (Response must include both maps in the comparison.)
- D. Describe one environmental effect of agricultural land use such as commercial animal farms.
- E. Explain how the globalization of agriculture may affect local culture traits.
- F. Explain why regions of agricultural production may become interdependent.
- G. Explain how domesticated animals such as pigs spatially diffused to create the spatial pattern shown on Map 2.

STOP

END OF EXAM



HUMAN GEOGRAPHY**SECTION II****Time—1 hour and 15 minutes****3 Questions**

Directions: You have 1 hour and 15 minutes to answer all three of the following questions. It is recommended that you spend approximately one-third of your time (25 minutes) on each question. It is suggested that you take up to 5 minutes of this time to plan and outline each answer. You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

Question 1

1. The availability of food in the context of a growing world population is influenced by many social, environmental, and economic factors.
 - A. Define the concept of carrying capacity.
 - B. Describe ONE way that humans have altered the environmental sustainability of agricultural lands.
 - C. Explain how transportation technology has increased economies of scale in the agricultural sector of less developed countries.
 - D. Explain a likely negative economic outcome of Green Revolution agricultural practices on rural communities.
 - E. Explain ONE weakness of Malthusian theory in predicting the relationship between food production and population growth in contemporary society.
 - F. Explain how surplus food production has changed the global market for local agricultural products.
 - G. Explain the degree to which Green Revolution agricultural practices were effective in reducing hunger in less developed countries. (Response must indicate the degree [low, moderate, high] and provide an explanation.)

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 2

**PER CAPITA PRODUCTION OF STAPLE FOOD CROPS
IN HEARTH-OF-DOMESTICATION COUNTRIES**

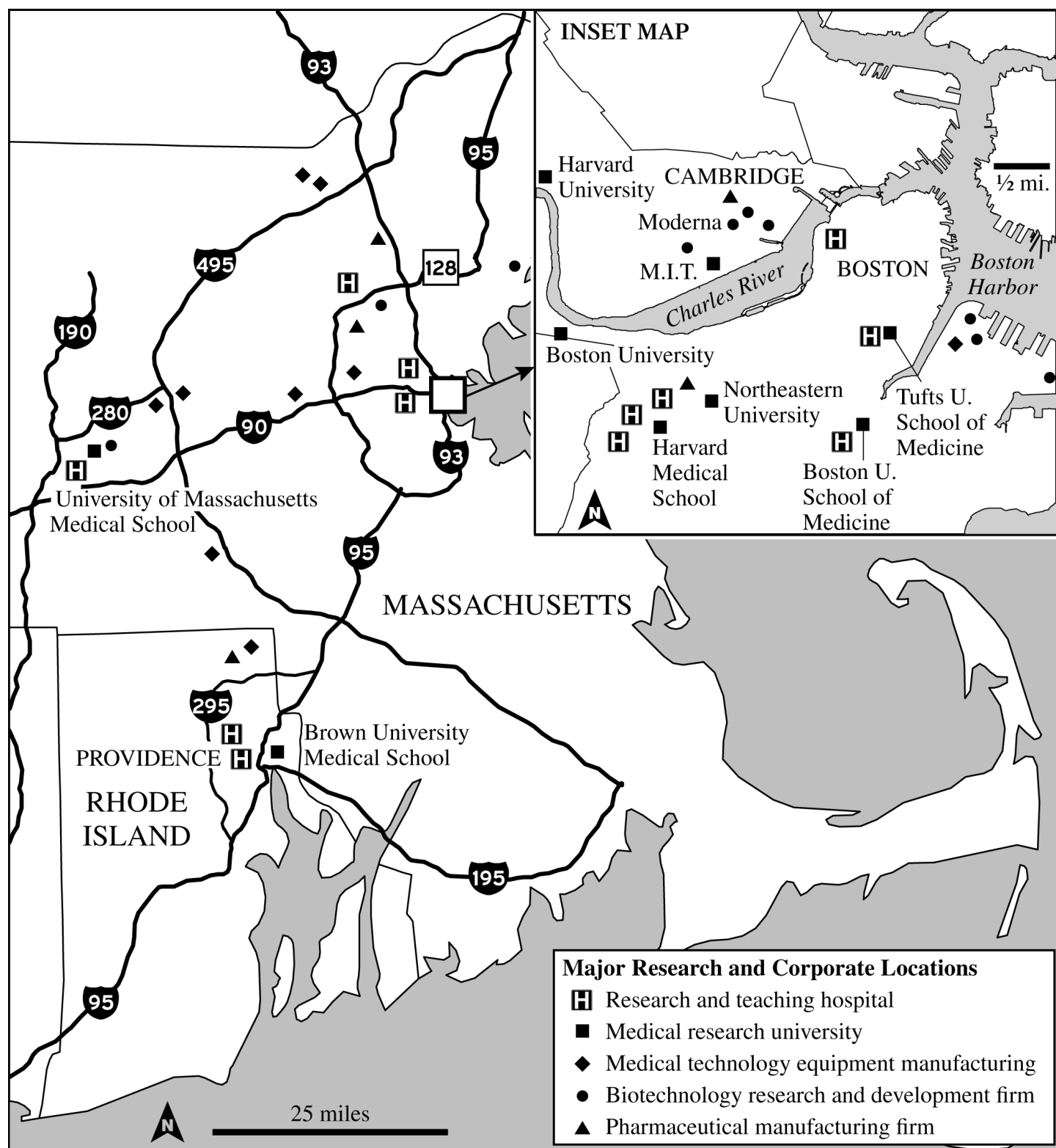
Country	Corn (maize) (pounds per capita)	Potato (pounds per capita)	Rice (pounds per capita)	Yam (pounds per capita)	Cassava (manioc or yuca) (pounds per capita)
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Source: Food and Agriculture Organization of the United Nations

2. Staple food crops provide most of the carbohydrates in people's diets, and some staples are also used as animal feed or in the distillation of ethanol. Cassava is a root crop (tuber) that is the source of farinha, tapioca, and the pearls in bubble tea.
- A. Describe the concept of an early hearth of domestication.
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 - C. Explain how food preferences can be a culture trait.
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Question 3

MAJOR MEDICAL AND BIOTECHNOLOGY COMPANIES AND INSTITUTIONS IN THE BOSTON AND PROVIDENCE REGION

Source: National Institutes of Health

The inset map shows the downtown areas of Boston and Cambridge, Massachusetts.

5.10 Consequences of Agricultural Practices

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS desertification 荒漠化 • deforestation 森林砍伐 • pollution 污染 • soil degradation 土壤退化
• agriculture 农业

Objective

Build the skills to answer exam questions on the **environmental consequences of agriculture** 农业的环境影响.

You must be able to:

- explain how farming causes **soil degradation** 土壤退化 and erosion
- explain how fertilizers cause water **pollution** 污染
- link agriculture to **deforestation** 森林砍伐 and land-cover change
- state one way to farm more sustainably

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Soil and water impacts

Intensive farming can strip nutrients and cause **soil degradation** and erosion. Excess fertilizer washes into rivers, causing **pollution** and algal blooms.

■ Land-cover change

Clearing land for farms drives **deforestation** and loss of habitat, changing land cover and releasing carbon.

■ Sustainable responses

Crop rotation, terracing, cover crops, and reduced chemical use protect soil and water while keeping land productive.

2 Practice

2.1 Explain how excess fertilizer harms rivers. [2]

2.2 State how expanding farmland causes deforestation. [2]

2.3 A region's overworked fields are losing topsoil.

(a) Name this environmental consequence. [1]

(b) State one practice that would reduce it. [1]

3 Exam-style questions

3.1 Fertilizer runoff causing algal blooms in a lake is an example of [1]

- **A** soil erosion
- **B** water pollution
- **C** deforestation
- **D** desertification only

3.2 Clearing rainforest for cattle pasture is a form of [1]

- **A** reforestation
- **B** deforestation and land-cover change
- **C** crop rotation
- **D** fair trade

3.3 A farm switches to crop rotation and cover crops.

(a) State one environmental benefit. [1]

(b) Explain why this is more sustainable. [1]

Solutions

2.1 fertilizer washes into waterways; it causes algal blooms/pollution that harm aquatic life.

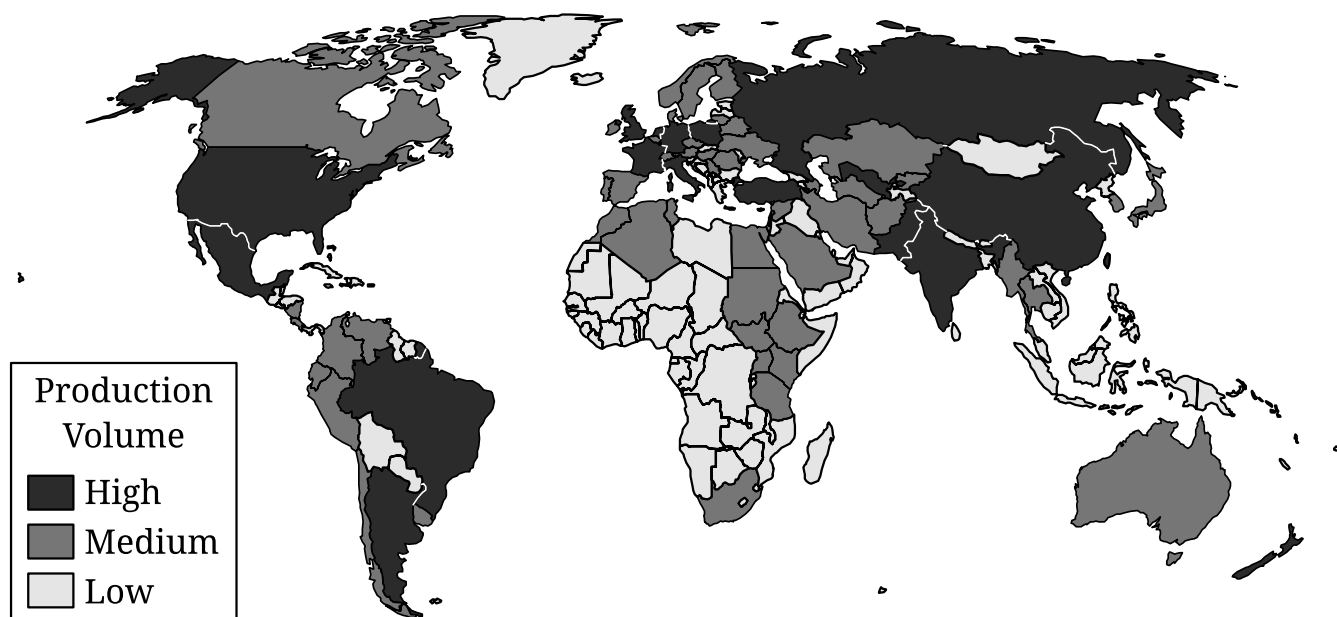
2.2 forests are cleared to create fields/pasture; this destroys habitat and changes land cover.

2.3 (a) soil degradation/erosion. (b) crop rotation, terracing, cover crops, or reduced tillage.

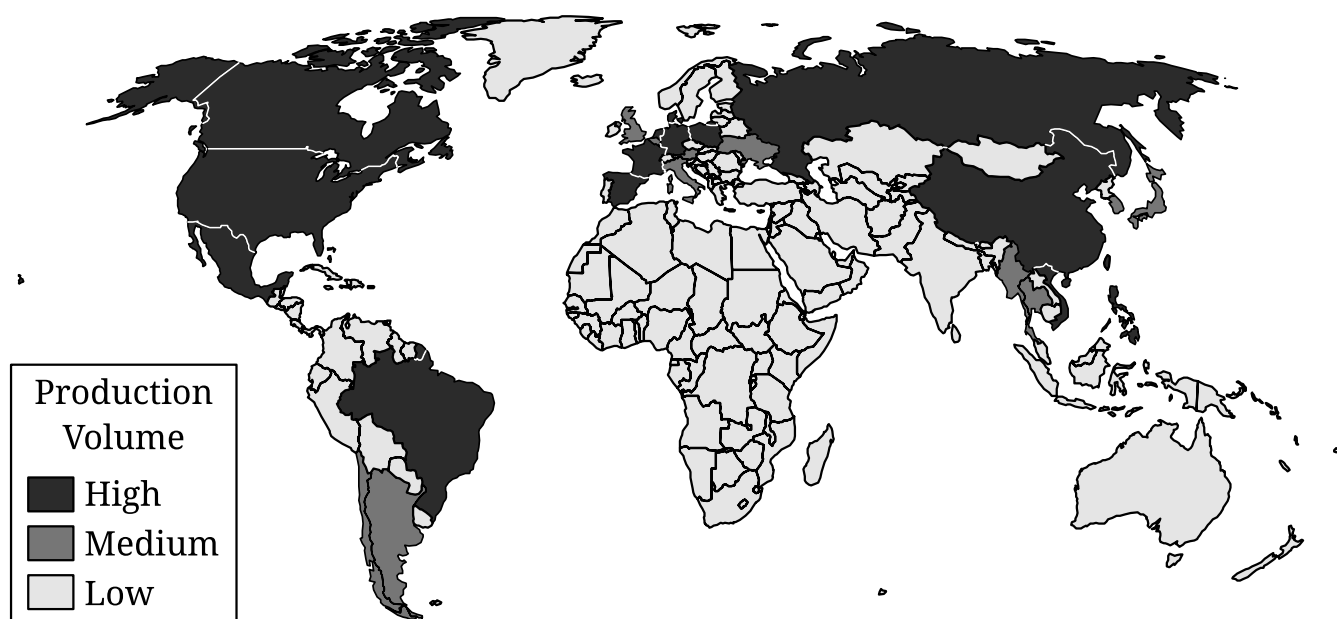
3.1 B. nutrient runoff into water = water pollution.

3.2 B. removing forest for farming = deforestation/land-cover change.

3.3 (a) less soil erosion / restored soil nutrients / less chemical need. (b) it keeps the land productive long-term without degrading it.

Map 1: Cow's Milk Production, 2018

Source: Food and Agriculture Organization

Map 2: Pork Production, 2018

Source: Food and Agriculture Organization

3. The global production of cow's milk and pork results in distinctive spatial patterns of contemporary agriculture and land use.

Respond to parts A, B, C, D, E, F, and G.

- A. Identify an example of a culture trait.
- B. Describe the spatial pattern of cow's milk production in Africa, shown in Map 1.
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- E. Explain how the globalization of agriculture may affect local culture traits.
- F. Explain why regions of agricultural production may become interdependent.
- G. Explain how domesticated animals such as pigs spatially diffused to create the spatial pattern shown on Map 2.

STOP

END OF EXAM

HUMAN GEOGRAPHY**SECTION II****Time—1 hour and 15 minutes****3 Questions**

Directions: You have 1 hour and 15 minutes to answer all three of the following questions. It is recommended that you spend approximately one-third of your time (25 minutes) on each question. It is suggested that you take up to 5 minutes of this time to plan and outline each answer. You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

Question 1

1. The availability of food in the context of a growing world population is influenced by many social, environmental, and economic factors.
 - A. Define the concept of carrying capacity.
 - B. Describe ONE way that humans have altered the environmental sustainability of agricultural lands.
 - C. Explain how transportation technology has increased economies of scale in the agricultural sector of less developed countries.
 - D. Explain a likely negative economic outcome of Green Revolution agricultural practices on rural communities.
 - E. Explain ONE weakness of Malthusian theory in predicting the relationship between food production and population growth in contemporary society.
 - F. Explain how surplus food production has changed the global market for local agricultural products.
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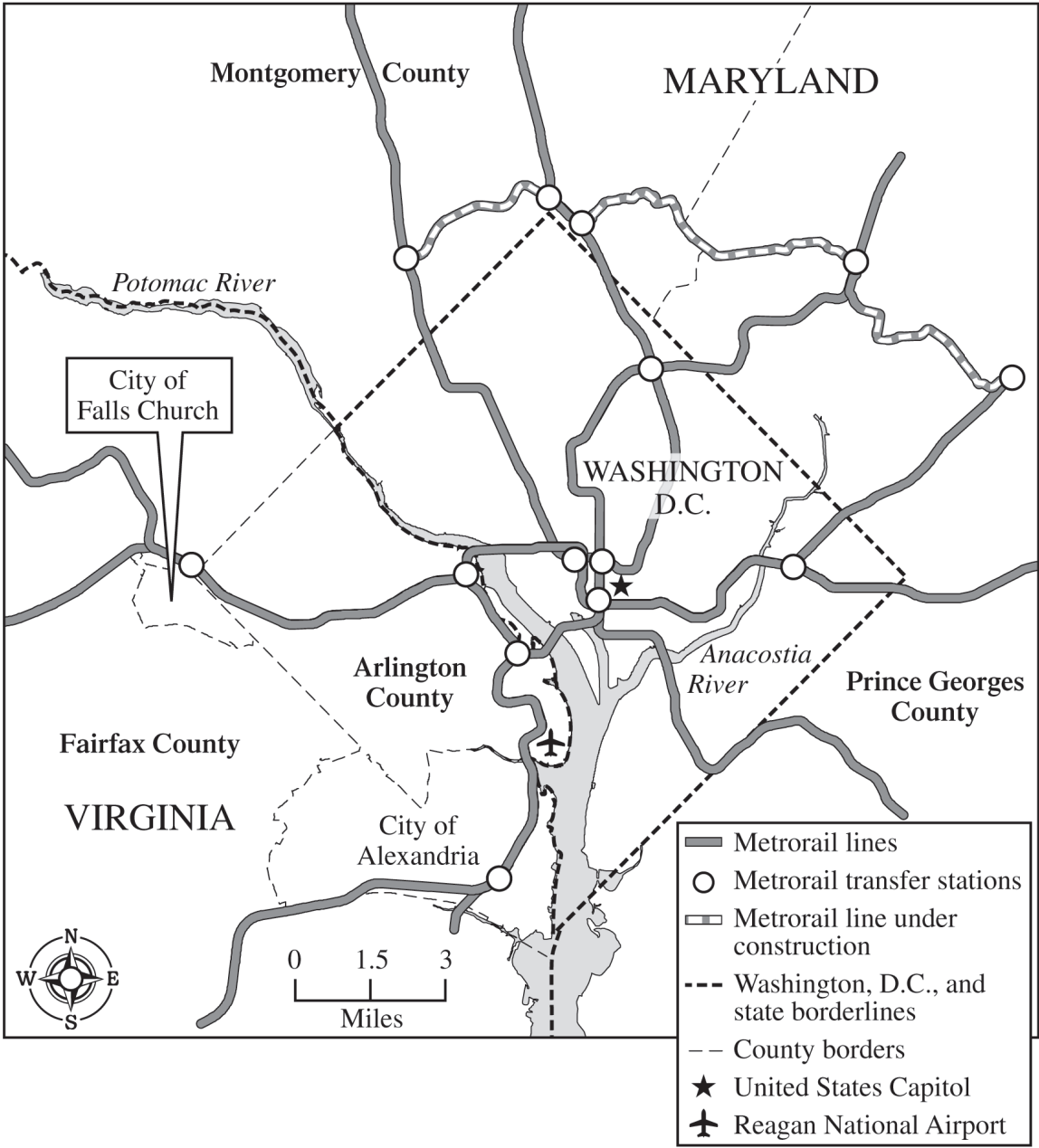
Question 1

1. The interaction of people contributes to the spread of cultural practices that change over time and vary between places. Interactions among cultures can lead to new forms of cultural expression.
 - A. Describe ONE type of diffusion by which culture traits spread.
 - B. Describe the process of creolization of language.
 - C. Describe how the globalization of foods has influenced cultural patterns of food consumption.
 - D. Explain ONE way that agricultural land use practices may have negative environmental effects.
 - E. Explain how a new style of music may be created as a result of cultural diffusion from different regions.
 - F. Explain how toponyms may result from the diffusion of religion across the cultural landscape.
 - G. Explain the degree to which the use of indigenous languages has been influenced by colonialism. (Response must indicate the degree [low, moderate, high] and provide an explanation.)

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 2

Washington, D.C., and Surrounding Jurisdictions



Source: ESRI Data Partners

3. Pastoral nomadism is widely practiced in the Sahel region of Africa. The map and table provide information about spatial patterns and social tensions associated with this type of agriculture.
- A. Describe ONE reason for the migration patterns shown on the map.
 - B. Describe ONE cause of desertification in the Sahel region.
 - C. Explain how pastoral nomadism may affect the cultural landscape of the Sahel region.
 - D. Explain ONE way mixed-crop farming could be affected by climatic conditions.
 - E. Using the map and table, explain why expanding protected natural areas may affect the migration routes of nomadic herders in the Sahel region.
 - F. Using the information in the table, explain why farmers' increased use of irrigation may increase conflicts with nomadic herders.
 - G. Explain the degree to which increased access to communication technologies may create cultural convergence among nomadic herders.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

5.11 Challenges of Contemporary Agriculture

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS food desert 食物荒漠 • gmo 转基因 • urban farming 城市农业 • local-food 本地食物
• gmos 转基因生物

Objective

Build the skills to answer exam questions on **challenges of contemporary agriculture** 当代农业的挑战.

You must be able to:

- define a **food desert** 食物荒漠
- summarise the **GMO** 转基因 debate
- explain the **local-food** 本地食物 and organic movements
- explain **urban farming** 城市农业

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Food deserts

A **food desert** is an area, often poor or urban, with little access to affordable fresh, healthy food — only convenience stores may be nearby.

■ GMO debate

Genetically modified organisms can raise yields and resist pests, but critics raise concerns over health, environment, and corporate control of seeds.

■ Local, organic, urban

Local-food and **organic** movements favour food grown nearby without synthetic chemicals; **urban farming** grows food in cities on rooftops, lots, and gardens.

2 Practice

2.1 Define a food desert. [2]

2.2 State one argument for and one against GMOs. [2]

2.3 City residents grow vegetables on rooftops and vacant lots.

(a) Name this practice. [1]

(b) State one benefit it offers a food desert. [1]

3 Exam-style questions

3.1 A neighbourhood with only convenience stores and no fresh-food shops is a [1]

- **A** food desert
- **B** commodity chain
- **C** greenbelt
- **D** relict region

3.2 A common argument in favour of GMO crops is that they can [1]

- **A** always lower yields
- **B** resist pests and raise yields
- **C** remove the need for any farming
- **D** end all pollution

3.3 A community starts a local-food, organic cooperative.

(a) State one benefit of buying local, organic food. [1]

(b) State one challenge of the movement. [1]

Solutions

2.1 an area with poor access to affordable fresh, healthy food, often relying on convenience stores.

2.2 for: higher yields / pest resistance / less chemical need; against: health, environmental, or corporate-control concerns.

2.3 (a) urban farming/agriculture. (b) local access to fresh, affordable produce.

3.1 A. poor fresh-food access defines a food desert.

3.2 B. GMOs can resist pests and raise yields.

3.3 (a) fresher food, fewer chemicals, lower transport emissions, support for local farmers.
(b) higher cost, smaller scale, or limited availability.

Question 2

PER CAPITA PRODUCTION OF STAPLE FOOD CROPS
IN HEARTH-OF-DOMESTICATION COUNTRIES

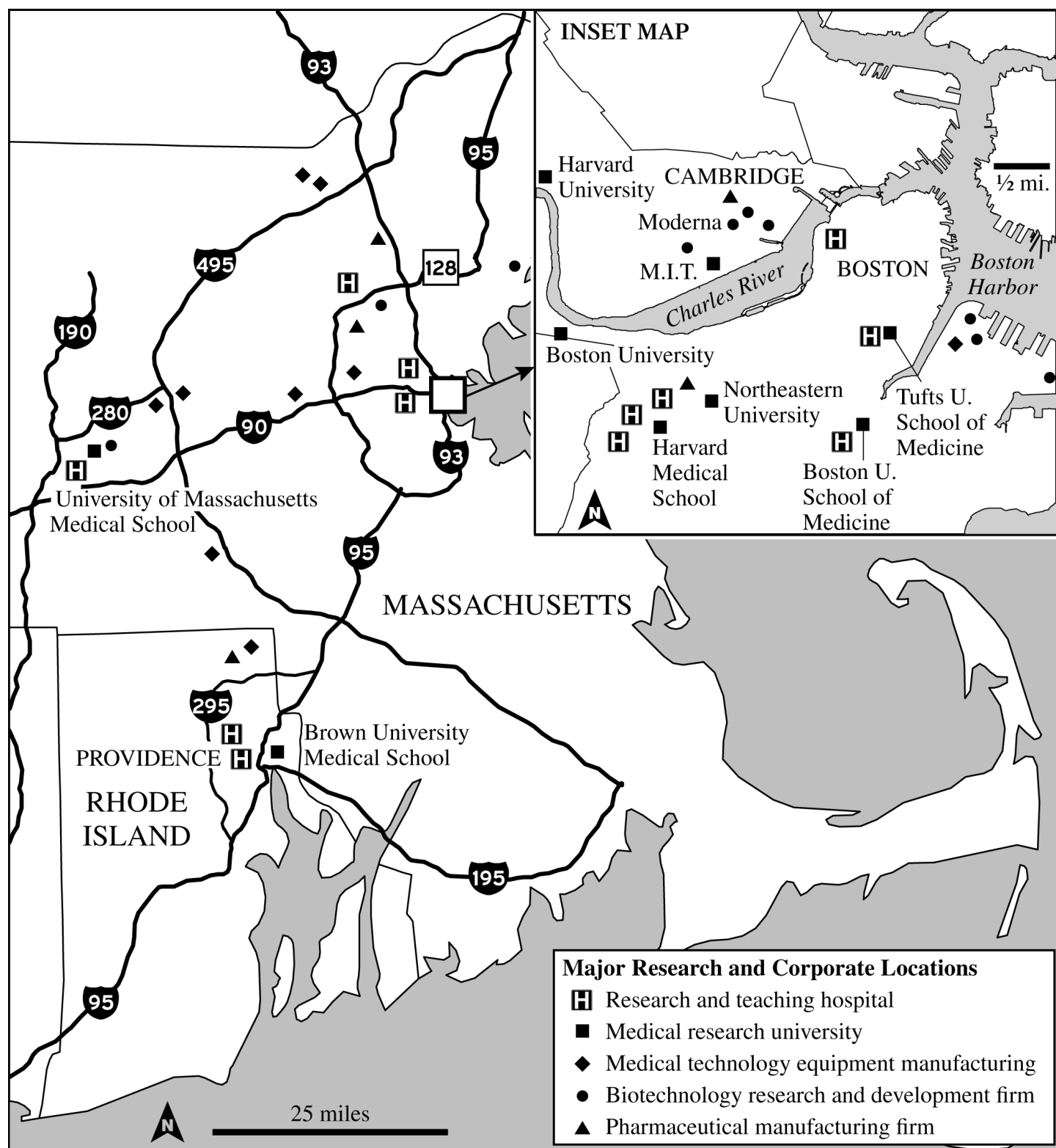
Country	Corn (maize) (pounds per capita)	Potato (pounds per capita)	Rice (pounds per capita)	Yam (pounds per capita)	Cassava (manioc or yuca) (pounds per capita)
	Hearth: Mexico	Hearth: Peru	Hearths: China and Mali	Hearth: Niger River basin	Hearth: Amazon River basin
Brazil	1,056	39	108	3	183
China	412	145	333	0	52
Mexico	471	31	4	0	0
Nigeria	121	15	93	549	618
Peru	107	362	216	0	13

Source: Food and Agriculture Organization of the United Nations

2. Staple food crops provide most of the carbohydrates in people’s diets, and some staples are also used as animal feed or in the distillation of ethanol. Cassava is a root crop (tuber) that is the source of farinha, tapioca, and the pearls in bubble tea.
- A. Describe the concept of an early hearth of domestication.
 - B. Identify the crop listed in the table that has diffused the least from its hearth of domestication to the countries listed in the table.
 - C. Explain how food preferences can be a culture trait.
 - D. Explain how the Columbian Exchange contributed to a crop’s diffusion beyond its hearth of domestication.
 - E. Explain how the data in the table support the concept of a crop’s consumption pattern being the result of globalization.
 - F. Explain why a crop may be farmed intensively in a less developed country and be farmed extensively in a more developed country.
 - G. Explain ONE way the global supply chain links crops such as those listed in the table to consumers in other countries.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 3

MAJOR MEDICAL AND BIOTECHNOLOGY COMPANIES AND INSTITUTIONS IN THE BOSTON AND PROVIDENCE REGION

Source: National Institutes of Health

The inset map shows the downtown areas of Boston and Cambridge, Massachusetts.

5.12 Women in Agriculture

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS subsistence agriculture 自给农业 • women in agriculture 农业中的妇女 • agriculture 农业

Objective

Build the skills to answer exam questions on the role of **women in agriculture** 农业中的妇女.

You must be able to:

- describe women's role in **subsistence agriculture** 自给农业
- explain the gap between women's work and their land rights
- explain how supporting women farmers raises output
- compare women's roles across development levels

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Women in subsistence farming

In many developing regions women do much of the **subsistence farming** — planting, weeding, harvesting, and processing food for the family.

■ Work vs rights

Despite this work, women often have weaker rights to **own land**, get credit, or access tools, limiting how much they can produce.

■ Supporting women farmers

Giving women equal access to land, credit, and training raises yields and improves family nutrition and income.

2 Practice

2.1 Describe the role of women in subsistence agriculture in many developing regions. [2]

2.2 Explain the gap between women's farm work and their land rights. [2]

2.3 A programme gives women farmers equal access to credit and training.

(a) Predict the effect on farm output. [1]

(b) State one wider benefit to the family. [1]

3 Exam-style questions

3.1 In many developing countries, women perform much of the [1]

- **A** commercial export farming only
- **B** subsistence farming labour
- **C** industrial factory work only
- **D** quaternary-sector work

3.2 A common barrier facing women farmers is limited access to [1]

- **A** sunlight
- **B** land ownership and credit
- **C** seeds that exist
- **D** any customers

3.3 Two regions differ in women's land rights.

(a) Explain how stronger rights could raise a region's food output. [1]

(b) Explain how women's roles may differ in a highly developed country. [1]

Solutions

2.1 they do much of the daily farm labour — planting, weeding, harvesting and processing food for the household.

2.2 women often do most of the work but have weaker rights to own land or get credit.

2.3 (a) output/yields rise. (b) better family nutrition, income, or children's education.

3.1 B. women do much subsistence farm labour in developing regions.

3.2 B. weak land and credit rights limit women farmers.

3.3 (a) women could invest in and expand production, raising yields. (b) in developed countries farming is more mechanised/commercial, so roles are less about manual subsistence labour.