Module 6: Agri-Systems Across the City-Rural Gradient
Quiz (All Lessons)

Lesson A Quiz
Quiz Links:
[Module 6 Lesson A Quiz - Responder Link]

Multiple choice:

Over ____ of the world's population now lives in cities.
A. 60%
B. 55%
C. 50%
D. 30%

Which is the correct definition of a peri-urban zone?
A. Areas on the edge of cities that support food production, like greenhouse belts and small farms near urban markets.
B. City centers converted into industrial farming zones for mass food export.
C. Rural regions far from cities, where farming has no connection to urban markets.
D. Designated wildlife reserves where no food production is allowed.

Which of the following are NOT characteristics of *rural agriculture*:
A. Large scale farming
B. Sparsely populated areas
C. Ekstensification
D. Dominance of legal status

Urban farm labor is mostly from:
A. Corporate executives on rotational assignments
B. Imported robotics operated remotely
C. Volunteers, local community members
D. Retired airline pilots transitioning to agriculture

Which of the following is the correct definition of food miles?
A. The distance food travels from production to consumer, impacting emissions and freshness.
B. The number of calories burned while transporting food to market.
C. The amount of money spent on food per mile of transportation.
D. The weight of food transported divided by the number of miles it could travel without spoiling.

Which of the following is an urban agriculture example?
A. Large-scale almond orchards in the Central Valley
B. Shipping container farms
C. Cattle ranches in the Sierra foothills
D. Row crop farms spanning thousands of acres in the Imperial Valley

What is a key feature of orchard agriculture in California's Central Valley?
A. Rooftop planting and vertical farming
B. Hand-harvested mixed crops near cities
C. High-altitude grain and livestock farming

D. Use of advanced machinery and large-scale monoculture

True or False:

Peri-urban greenhouse clusters help reduce food waste and heating costs by capturing waste heat from nearby compost sites or biodigesters.

Short Answer:

Describe two features of large-scale orchard farming in California's Central Valley and explain one challenge these farms face.

Answer Should:

- Describe two key features of orchard farming in California's Central Valley (e.g., use of advanced machinery, large-scale monoculture, cost efficiency)
- Identify and briefly explain one challenge (e.g., pest pressure, reliance on long-haul transport)
- Use relevant vocabulary such as *monoculture*, *mechanization*, or *integrated pest management*
- Be 2–3 sentences long

Short Essay:

Explain how peri-urban greenhouse clusters contribute to sustainable and resilient food systems. In your response, describe at least two environmental or economic benefits and give examples of how these systems reduce resource use and support local communities.

Requirements:

- Clearly explain how peri-urban greenhouse clusters support sustainability and resilience
- Mention **at least two benefits**, such as reduced transport emissions, lower heating costs, efficient water use, or job creation
- Include **specific examples**, like stormwater irrigation, use of waste heat, or proximity to compost sites
- Use relevant vocabulary such as *food miles*, *circular economy*, *climate resilience*, *drip irrigation*, or *nutrient loops*
- Be approximately **1–2 paragraphs (5–8 sentences each)** long

Lesson B Quiz
Quiz Link:
Module 6 Lesson B Quiz - Responder Link

Multiple Choice:

What is the correct definition of passive heat distribution?

A. A system of heat lamps controlled by timers to warm greenhouse crops overnight
B. The use of heated water pumped through radiators powered by diesel generators
C. Manually placing hot bricks inside greenhouses each night to retain warmth
D. Small solar powered fans which move compost air through under-bench tubing

How much does pulse drip irrigation save?

A. 30%
B. 10%
C. 35%
D. 20%

Which is NOT a feature of rural renewable dryland farming?

A. Cloud data and remote control
B. Wind powered pump
C. Heated concrete planting beds
D. Soil moisture probe

What is the social impact of urban farms?

A. Hyper-local farming can improve dietary health in under-served neighborhoods.
B. Urban farms increase industrial crop exports to foreign markets
C. They primarily serve as storage areas for imported fertilizer supplies
D. Urban farms are designed to reduce traffic congestion during rush hour

Urban closed loop micro farm cuts water and waste by ____:

A. 50%
B. 35%
C. 60%
D. 40%

Which of the following are climate smart agriculture goals?

A. Maximize fertilizer use, expand monocultures, increase export volume
B. Increase productivity, enhance resilience, reduce greenhouse emissions
C. Prioritize aesthetics, reduce farm labor, eliminate crop diversity
D. Replace natural pollinators with drones, focus only on high-income markets, increase irrigation runoff

Which of the following best describes a feedback loop in agriculture or climate systems?

A. A process where an initial change causes effects that either reinforce or reduce that change over time
B. A method for collecting customer reviews about farm produce
C. A government form farmers fill out to request subsidies
D. A routine for checking tractor engine performance each season

Short Answer:

Describe two core goals of climate smart agriculture, and briefly explain the benefits they will provide.
Answer Should:

- Clearly identify **two core goals** mentioned from the beginning of Lesson B
- Briefly explain the definitions of each goal that was provided in the lesson
- Be **2–3 sentences long**

True/False:

Ideal crops for compost-heated hoop houses include slow-growing tropical fruits like mangoes and avocados, which require high heating year-round.

Short Essay:

How do peri-urban hoop houses use city resources to save money and reduce waste? Give two examples and suggest one more idea of your own.

Requirements:

- Describe **two examples** of how peri-urban hoop houses use urban resources (e.g., compost heat, stormwater collection)
- Explain **how these strategies save money or reduce waste**
- Suggest **one additional urban by-product** that could be reused (e.g., brewery CO_2, shredded cardboard)
- Use relevant terms like *urban fringe*, *compost heat*, or *resource reuse*
- Be **2–3 sentences long**

Lesson C Quiz
Quiz Link:
[Module 6 Lesson C Quiz - Responder Link]

Multiple choice:

Hydroponics use ____ less water per kilogram of of lettuce than traditional soil farming
A. 80%
B. 70%
C. 75%
D. 40%

Due to _____, stacked systems use more LEDs, increasing energy use per unit of biomass
A. Light decay curves
B. Limited root zone volume
C. Nutrient runoff rates
D. Airflow restrictions

The best balanced design for efficiency includes:
A. Crop height, greenhouse color, and harvest time
B. Fertilizer brand, tractor speed, and plant spacing
C. Packaging style, shelf labels, and delivery route
D. Water use, energy use, and yield

Energy-use efficiency use which of the following units:
A. kWh/kg
B. kg/kWh
C. kWh/acre
D. lumens/kg

In a vertical farming system, roughly how much light will reach the third tier?
A. 70%
B. 45%
C. 60%
D. 20%

Short Answer
Briefly explain why there is no perfect solution in agriculture when creating a sustainable design.
Answer should:
- Acknowledge that **every farming system involves trade-offs**
- Be **2–3 sentences long**
- Use terms like *trade-off*, *balance*, *sustainability*, or *resource limits*

Design Prompt
You are tasked with designing a peri-urban compost-heat hoop house. What urban by-product will your house utilize, and illustrate how can be a closed-loop system.

Tip: Utilize knowledge from Lesson B

Answer Should Include:

- Clearly identify **one urban by-product** (e.g., compost, stormwater, waste heat, CO_2 from breweries, cardboard)
- Explain how that by-product is **captured and reused** in the hoop house system
- Describe how the system forms a **closed-loop**, reducing waste and relying on local resources
- Mention at least **one benefit**, such as **energy savings**, **water conservation**, or **reduced emissions**
- Use relevant terms like *closed-loop system*, *resource reuse*, *compost heat*, or *circular economy*