Module 6: Agri-Systems Across the City-Rural Gradient
Lesson C Quiz

Tech and Metrics that Matter

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*