Introduction (5 minutes)

1. Welcome participants and introduce the workshop's topic.
2. Emphasize the importance of proper harvesting, post-harvest handling, and food safety in passive hydroponic urban farming for maintaining crop quality and ensuring consumer health.

Proper Harvesting Techniques and Timing (20 minutes)

1. Explain the factors influencing the optimal time to harvest crops in passive hydroponic systems, such as plant maturity, growth stage, environmental conditions, and seasonality.
2. Discuss and demonstrate various harvesting techniques for different types of crops in passive hydroponic systems:
    - Leafy greens: Use sharp scissors or a knife to cut leaves individually or in bunches.
    - Herbs: Harvest just before the plant flowers for maximum flavor. Snip stems above a leaf node or pair of leaves to encourage new growth.
    - Microgreens: Use clean, sharp scissors to snip the stems just above the growing medium when the first set of true leaves has emerged.
    - Fruiting crops: Gently twist or snap the fruit from the plant when it has reached full size and color, avoiding damage to the plant.
3. Present and discuss the proper use and maintenance of harvesting tools and equipment for different crops in passive hydroponic systems, emphasizing the importance of cleanliness and sharpness.

Post-Harvest Handling and Storage (20 minutes)

1. Describe handling techniques to minimize damage to crops and maximize shelf life in passive hydroponic systems:
    - Gentle handling: Handle produce carefully to avoid bruising or damaging the crops.
    - Transportation: Use clean, well-ventilated containers to transport produce and avoid stacking heavy items on top of delicate crops.
    - Cleaning: Rinse crops gently in cool, clean water to remove any remaining nutrient solution and debris, and dry them thoroughly before storage.
    - Trimming: Remove damaged or diseased plant parts, and trim leaves or stems as needed to improve storage and shelf life.
2. Explain storage methods for different crops, including optimal temperature, humidity, and storage conditions:
    - Leafy greens and herbs: Store in a cool, humid environment in airtight containers or plastic bags with a damp paper towel.
    - Microgreens: Keep in a sealed container in the refrigerator and consume within a week.
    - Fruiting crops: Store at room temperature for short periods or in a cool, dark place for longer storage.

Food Safety and Quality Assurance (20 minutes)

1. Emphasize the importance of food safety in passive hydroponic urban farming to protect consumer health and ensure high-quality produce.
2. Explain the principles of Good Agricultural Practices (GAP) and hygiene in passive hydroponic systems:
    1. Proper sanitation: Regularly clean and sanitize tools, containers, and surfaces that come into contact with produce.
    2. Worker training: Ensure all individuals working in the urban farm are trained in proper hygiene practices, such as hand washing, wearing clean gloves, and avoiding contact with produce when sick.
    3. Record keeping: Maintain detailed records of all farm activities, including planting, fertilizing, pest management, and harvesting, to ensure traceability and compliance with food safety regulations.
3. Discuss the potential sources of contamination in passive hydroponic urban farming settings and outline strategies for minimizing these risks:
    1. Growing media: Use clean, high-quality growing media to minimize the risk of contamination.
    2. Water: Ensure water used for irrigation and cleaning is of suitable quality and free from harmful contaminants. Regularly test water sources and use appropriate filtration or treatment methods if necessary.
    3. Pesticides and fertilizers: Use approved and safe products for pest and disease management and follow label instructions for application and waiting periods before harvest.
    4. Animals and pests: Implement pest control measures and exclude domestic animals from the growing area to prevent contamination by pathogens.
    5. Environmental factors: Be aware of potential air pollution, such as vehicle exhaust or industrial emissions, and consider strategies to minimize exposure, such as using barriers or selecting suitable growing locations.

Seed Saving and Propagation Techniques for Passive Hydroponic Systems (10 minutes)

1. Describe the importance of seed saving and propagation in achieving self-sufficiency in passive hydroponic urban farming.
2. Present various seed-saving techniques for different types of plants, including:
    - Open-pollinated plants: Explain the process of selecting and storing seeds from open-pollinated plants.
    - Heirloom plants: Discuss the benefits of preserving heirloom varieties and how to save their seeds.
    - Hybrid plants: Briefly touch on the limitations of saving seeds from hybrid plants and potential alternatives.
3. Introduce different plant propagation methods suitable for passive hydroponic systems, including:
    - Cuttings: Describe the process of propagating plants from stem, leaf, or root cuttings in hydroponic systems.
    - Cloning: Explain the basics of cloning techniques for rapid plant propagation in hydroponic systems.

Conclusion (5 minutes)

1. Recap the key points covered in the workshop, emphasizing the importance of proper harvesting techniques, post-harvest handling, and food safety for successful passive hydroponic urban farming.
2. Provide participants with resources for further learning, such as fact sheets, guides, and online forums related to harvesting, post-harvest handling, and food safety in passive hydroponic urban farming.
3. Encourage participants to apply the knowledge and skills gained in the workshop to their passive hydroponic urban farming projects and share their experiences with others in the urban farming community.
4. Thank the participants for attending the workshop and invite them to attend future workshops in the series for continued learning and skill development.