Slide 1: Workshop 5: Pest, Disease, and Environmental Management [Include an image of hydroponic produce being harvested]

Speaker Notes: Welcome to Workshop 5 of our urban farming series on passive hydroponics. In this workshop, we will focus on pest, disease, and environmental management.

Slide 2: Introduction

- Welcome participants and introduce the workshop's topic
- Importance of pest, disease, and environmental management [Include a picture of a passive hydroponic urban farm]

Speaker Notes: Welcome everyone to our workshop on Pest, Disease, and Environmental Management in Passive Hydroponic Urban Farming. In this workshop, we'll discuss the importance of managing pests, diseases, and environmental factors to ensure successful plant growth and a healthy environment in passive hydroponic urban farming.

Slide 3: Integrated Pest Management Strategies

- Definition and objectives of IPM
- Principles of IPM
- Various IPM strategies [Include pictures of pest-resistant plant varieties, physical barriers, and natural predators]

Speaker Notes: Integrated Pest Management (IPM) is an environmentally friendly, cost-effective approach that focuses on long-term prevention of pests and their damage in passive hydroponic systems. The principles of IPM include reducing pest populations to manageable levels, minimizing pesticide use, and promoting sustainable urban farming practices. IPM strategies for passive hydroponic systems include cultural control, physical control, biological control, and chemical control. We will now discuss each of these strategies in detail.

Slide 4: Cultural Control

- Maintaining healthy plants
- Pest-resistant varieties
- Proper sanitation
- Optimal growing conditions [Include pictures of pest-resistant plant varieties and proper sanitation practices]

Speaker Notes: Cultural control in IPM focuses on maintaining healthy plants by selecting pest-resistant varieties, practicing proper sanitation, and providing optimal growing conditions. Healthy plants are less likely to be affected by pests and can better withstand pest damage. Proper sanitation, such as removing dead leaves and debris, can help prevent the buildup of pests in your passive hydroponic system.

Slide 5: Physical Control

- Barriers and traps
- Manual removal of pests [Include pictures of physical barriers, traps, and manual removal of pests]

Speaker Notes: Physical control involves the use of barriers, traps, and manual removal of pests to prevent infestations or damage. Barriers can include insect netting or screens, while traps can be used to capture pests like aphids, whiteflies, or fungus gnats. Manual removal of pests can be done using a soft brush or cloth, or by hand if necessary.

Slide 6: Biological Control

- Natural predators, parasites, and pathogens [Include pictures of natural predators like ladybugs and predatory mites]

Speaker Notes: Biological control in IPM encourages the presence of natural predators, parasites, and pathogens to manage pests in the growing environment. Examples of natural predators include ladybugs, predatory mites, and lacewings. These beneficial organisms help control pest populations without the need for chemical interventions.

Slide 7: Chemical Control

- Responsible pesticide application
- Minimizing adverse effects [Include a picture of a targeted pesticide application]

Speaker Notes: Chemical control in IPM involves the application of pesticides as a last resort and in a targeted, responsible manner to minimize adverse effects on the environment and human health. Always follow label instructions and safety precautions when using chemical control methods.

Slide 8: Common Diseases and Their Control Methods

- Fungal, bacterial, and viral diseases
- Symptoms, causes, and prevention strategies [Include pictures of common diseases in passive hydroponic systems]

Speaker Notes: In passive hydroponic urban farming settings, common plant diseases include fungal diseases like powdery mildew, bacterial diseases such as bacterial leaf spot, and viral diseases like mosaic viruses. Each type of disease has its own set of symptoms, causes, and prevention strategies, which we will discuss in detail.

Slide 9: Environmental Controls

- Temperature and humidity control
- Ventilation and air circulation
- Light management [Include pictures of sensors, fans, and supplemental lighting]

Speaker Notes: Maintaining a suitable growing environment in passive hydroponic systems is crucial for preventing pests and diseases. Environmental controls for passive hydroponics include temperature and humidity control, ventilation and air circulation, and light management. Let's discuss each of these factors.

Slide 10: Temperature and Humidity Control

- Optimal levels for plant growth and pest/disease prevention

- Using temperature and humidity sensors, heaters, or humidifiers [Include pictures of temperature and humidity sensors, heaters, and humidifiers]

Speaker Notes: Temperature and humidity control are essential for promoting healthy plant growth and preventing the development of pests and diseases. Monitor and maintain optimal levels using temperature and humidity sensors, heaters, or humidifiers. Proper control helps create an environment that discourages pest and disease growth.

Slide 11: Ventilation and Air Circulation

- Proper airflow
- Using fans or opening vents [Include pictures of fans and vent openings]

Speaker Notes: Ventilation and air circulation help to reduce the risk of disease and improve overall plant health in passive hydroponic systems. Ensure proper airflow by using fans or opening vents as needed. Adequate airflow can help prevent the buildup of moisture and the growth of disease-causing pathogens.

Slide 12: Light Management

- Adequate light for plant growth
- Natural sunlight, supplemental lighting, or reflective materials
- Preventing excessive heat and stress [Include pictures of natural sunlight, supplemental lighting, and reflective materials]

Speaker Notes: Providing adequate light for plant growth is essential in passive hydroponic systems. Use natural sunlight, supplemental lighting, or reflective materials to ensure plants receive the appropriate amount of light while preventing excessive heat and stress. Proper light management helps maintain healthy plant growth and reduce the likelihood of pest and disease infestations.

Slide 13: Conclusion

- Key points of the workshop
- Resources for further learning
- Encouragement to apply knowledge
- Invitation to attend future workshops [Include a picture of a thriving passive hydroponic urban farm]

Speaker Notes: In conclusion, we have covered the importance of integrated pest management, disease control, and environmental management for successful passive hydroponic urban farming. We encourage you to apply the knowledge and skills gained in this workshop to your urban farming projects and share your experiences with others in the community. We have provided resources for further learning, such as fact sheets, guides, and online forums related to pest and disease management in passive hydroponic urban farming. Thank you for attending this workshop, and we invite you to attend future workshops in the series for continued learning and skill development.