

## Slide 1: Introduction

- Workshop overview
- Importance of site selection, design, and space optimization in urban farming with passive hydroponics

Speaker Notes: Welcome to Workshop 2 of our urban farming series focusing on passive hydroponics. In this workshop, we will discuss the importance of site selection, design, and space optimization in creating a successful passive hydroponic urban farm. We will explore key factors to consider when selecting a site, as well as design principles to maximize efficiency in your urban farm. As we proceed, we will also provide examples of advantages and disadvantages for different approaches.

## Slide 2: Factors for Site Selection and Assessment

- Sunlight and orientation
- Water access and drainage
- Space and area
- Climate and microclimate

Speaker Notes: There are four key factors to consider when selecting a site for your passive hydroponic urban farm: sunlight and orientation, water access and drainage, space and area, and climate and microclimate. We will discuss each factor in detail, including how to assess your site and make adjustments to optimize your farm's productivity.

## Slide 3: Sunlight and Orientation

- Importance of sunlight for plant growth in passive hydroponic systems
- Assessing sunlight availability and selecting sun-loving or shade-tolerant plants
- Calculating sun paths and their impact on passive hydroponic systems

Speaker Notes: Sunlight is crucial for plant growth in passive hydroponic systems. Photosynthesis is the process through which plants convert sunlight into energy. The amount of sunlight your urban farm receives will determine which plants will thrive in your system.

To assess sunlight availability, consider the orientation of your space and how it affects sun exposure. Observe the sun's path throughout the day and take note of areas that receive the most sunlight. You may need to select sun-loving or shade-tolerant plants depending on your site's sunlight availability. Understanding sun paths and their impact on your passive hydroponic system will help you optimize your farm's productivity.

## Slide 4: Water Access and Drainage

- Importance of water for passive hydroponics
- Assessing water access and drainage possibilities for passive hydroponic systems
- Planning for water conservation and recycling strategies

Speaker Notes: Water is another critical factor for passive hydroponic systems. Plants need a consistent water supply to grow, and your urban farm must have adequate access to water

sources and drainage systems. Assess your site's water access and drainage possibilities, considering factors like rainfall, water runoff, and potential water collection methods.

Additionally, plan for water conservation and recycling strategies, such as rainwater harvesting, greywater recycling, and using water-efficient passive hydroponic systems. This not only conserves resources but can also lower your water bill.

#### Slide 5: Space and Area

- Assessing available space for urban farm development
- Identifying potential challenges and solutions in the context of passive hydroponics
- Estimating plant density and calculating potential yield

Speaker Notes: When planning your urban farm, it's essential to assess the available space for development. Consider the layout and dimensions of your site, as well as any potential challenges, such as limited access or obstructions. Identifying these challenges early on will help you develop solutions tailored to your specific site.

Estimate plant density and calculate potential yield to ensure you make the most of your available space. Keep in mind that some passive hydroponic systems can support higher plant densities than traditional soil-based systems.

#### Slide 6: Climate and Microclimate

- Understanding the impact of local climate on plant growth in passive hydroponic systems
- Identifying and creating microclimates within the urban farm for improved plant growth
- Exploring passive climate control techniques, such as shading and insulation

Speaker Notes: Local climate plays a significant role in plant growth and the success of your passive hydroponic urban farm. Temperature, humidity, and precipitation can all impact plant growth and health.

Understanding your local climate will help you select suitable plants for your farm and create microclimates within your urban farm to improve plant growth. Microclimates are small areas within your farm that have slightly different environmental conditions, such as temperature or humidity, compared to the surrounding area.

You can create microclimates by strategically placing plants, structures, or materials to modify the environment. For example, you can use shading or insulation to control temperature and protect plants from extreme weather conditions.

#### Slide 7: Designing an Urban Farm for Maximum Efficiency with Passive Hydroponics

- Principles of efficient urban farm design
- Passive hydroponic system integration
- Plant selection and arrangement
- Workflow and maintenance considerations
- Addressing regulatory and zoning requirements

Speaker Notes: Designing an efficient urban farm with passive hydroponics involves several key aspects, including maximizing space utilization, integrating passive hydroponic systems,

selecting and arranging plants, considering workflow and maintenance, and addressing regulatory and zoning requirements. Let's explore each aspect in more detail.

#### Slide 8: Principles of Efficient Urban Farm Design

- Maximizing space utilization for passive hydroponic systems
- Ensuring ease of access and maintenance in passive hydroponic urban farms
- Incorporating sustainable and eco-friendly design principles

Speaker Notes: Efficient urban farm design starts with maximizing space utilization for passive hydroponic systems. This involves optimizing the layout and arrangement of your farm to make the most of the available space. Vertical farming and multi-tiered options can be especially helpful for maximizing space usage in small or confined areas.

Ensure your design allows for ease of access and maintenance, including pathways and clearances for tools and equipment. Finally, incorporate sustainable and eco-friendly design principles, such as using recycled or renewable materials, conserving water, and minimizing waste.

#### Slide 9: Passive Hydroponic System Integration

- Selecting appropriate passive hydroponic systems for the space
- Incorporating passive hydroponic systems into the design
- Exploring vertical farming and multi-tiered options to maximize space usage

Speaker Notes: When integrating passive hydroponic systems into your urban farm design, it's crucial to select the appropriate system for your space and needs. Consider factors such as available sunlight, water access, and space constraints when making your decision.

Incorporate the selected passive hydroponic systems into your design, ensuring they are efficiently arranged and integrated with other farm elements. As mentioned earlier, explore vertical farming and multi-tiered options to maximize space usage, especially in confined or limited spaces.

#### Slide 10: Plant Selection and Arrangement

- Choosing suitable plants for the passive hydroponic urban farm
- Considering plant compatibility and optimizing placement
- Understanding and applying principles of companion planting

Speaker Notes: Selecting the right plants for your passive hydroponic urban farm is essential for success. Choose plants based on factors such as sunlight requirements, water needs, and climate suitability.

Consider plant compatibility when arranging your farm, ensuring that plants with similar needs are placed together. Optimize plant placement by applying principles of companion planting, which involves grouping plants that benefit one another, either by providing nutrients, attracting beneficial insects, or repelling pests.

#### Slide 11: Workflow and Maintenance Considerations

- Designing for efficient daily operations in passive hydroponic urban farms
- Planning for harvesting, pest management, and other tasks
- Implementing automation and technology to streamline processes and reduce labor

Speaker Notes: Efficient workflow and maintenance are crucial for the success of your passive hydroponic urban farm. Design your farm with daily operations in mind, ensuring that tasks such as watering, pruning, and harvesting can be performed with ease.

Plan for harvesting, pest management, and other essential tasks, considering the frequency and methods required for each. Implementing automation and technology, such as automated watering systems or sensors for monitoring plant health, can help streamline processes and reduce labor, making your urban farm more efficient and sustainable.

#### Slide 12: Addressing Regulatory and Zoning Requirements

- Navigating local regulations and zoning requirements for urban farms
- Obtaining necessary permits and approvals for passive hydroponic urban farming projects

Speaker Notes: Before starting your passive hydroponic urban farming project, it's essential to address regulatory and zoning requirements. Familiarize yourself with local regulations and zoning requirements for urban farms in your area, and ensure your project complies with these rules.

Obtain necessary permits and approvals before starting construction or installation of your passive hydroponic systems. Consulting with local authorities or urban farming experts can help you navigate the permitting process more efficiently.

#### Slide 13: Conclusion

- Recap of the workshop
- Key takeaways from site selection, design, and space optimization in passive hydroponic urban farming
- Importance of efficient urban farm design with passive hydroponics for successful urban farming

#### Slide 14: Next Steps and Resources

- Encourage participants to apply the knowledge gained in the workshop to their own passive hydroponic urban farm projects
- Provide resources and support for participants' urban farming journey with passive hydroponics, such as reference materials and expert contacts

#### Slide 15: Closing Remarks

- Thank participants for attending the workshop
- Encourage participation in future workshops and continued learning about passive hydroponic urban farming

Speaker Notes: Thank you for participating in Workshop 2: Site Selection, Design, and Space Optimization. We hope the information provided has given you valuable insights into planning

and designing an efficient passive hydroponic urban farm. We encourage you to apply the knowledge gained in this workshop to your own urban farming projects and continue learning about passive hydroponic urban farming.

Please join us for our future workshops in this series, and don't hesitate to reach out for further resources and support. We wish you the best of luck on your urban farming journey!