



Cucurbits Cultivation in Polyhouse

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Cucurbits, which include vegetables like cucumber, pumpkin, squash, and melons, can be successfully cultivated in polyhouses or greenhouses to provide a controlled environment that optimizes growth conditions. Here are some guidelines for cucurbit cultivation in a polyhouse:

1. Site Selection:

- Choose a site with good sunlight exposure. Cucurbits generally require full sunlight for at least 6-8 hours a day.
- Ensure proper ventilation to prevent the buildup of humidity and diseases.

2. Polyhouse Design:

- Select a polyhouse structure that allows for proper air circulation and temperature control.
- Ensure that the polyhouse has a system for temperature and humidity management.

3. Soil Preparation:

- Use well-draining, nutrient-rich soil with a pH ranging from 6.0 to 6.8.
- Incorporate organic matter, such as compost, into the soil to improve fertility.

4. Planting Material:

- Use healthy and disease-free seedlings or seeds.
- Transplants can be started in nursery trays before being transferred to the polyhouse.

5. Spacing:

- Follow recommended spacing guidelines for each cucurbit type to allow proper air circulation and light penetration.

6. Irrigation:

- Install a drip irrigation system to provide consistent moisture to the plants.
- Avoid overhead watering to reduce the risk of fungal diseases.

7. Temperature and Humidity Control:

- Install a temperature control system to maintain optimum temperature for cucurbit growth.
- Monitor and control humidity levels to prevent diseases, especially during flowering.

8. Training and Pruning:

- Provide support structures for vining cucurbits like cucumbers and squash.
- Regularly prune excess foliage to improve air circulation and sunlight penetration.

9. Fertilization:

- Implement a balanced fertilization program based on soil testing.
- Consider using slow-release fertilizers or organic fertilizers for sustained nutrient availability.

10. Pest and Disease Management:

- Implement integrated pest management (IPM) strategies to control pests.
- Monitor regularly for signs of diseases and take prompt action if detected.

10. **Harvesting:**

- Harvest fruits at the appropriate maturity stage for the specific cucurbit type.
- Regular harvesting promotes continuous fruit production.

11. **Crop Rotation:**

- Implement crop rotation to prevent the buildup of soil-borne diseases.

Remember that specific recommendations may vary depending on the type of cucurbit you are growing and the local climate conditions. Always adapt these guidelines based on your specific circumstances and consult with local agricultural experts for the best results.

Disease and pest in cucurbits

Cucurbits, like cucumbers, pumpkins, squash, and melons, are susceptible to various diseases and pests that can affect their growth and yield. Here's an overview of some common diseases and pests in cucurbits:

Diseases:

- **Powdery Mildew (*Podosphaera* spp.):**
 - White powdery spots on leaves.
 - Reduce humidity and increase air circulation to prevent powdery mildew.
- **Downy Mildew (*Pseudoperonospora cubensis*):**
 - Yellow lesions on upper leaf surfaces with downy growth on the undersides.
 - Apply fungicides early in the season and practice good crop rotation.
- **Anthracnose (*Colletotrichum* spp.):**
 - Circular lesions on leaves, stems, and fruits.
 - Use disease-resistant varieties and practice proper sanitation.
- **Bacterial Wilt (*Erwinia tracheiphila*):**
 - Wilting and sudden collapse of plants.
 - Control cucumber beetles, which transmit the bacteria.
- **Cucumber Mosaic Virus (CMV):**
 - Mottling, yellowing, and distortion of leaves.
 - Control aphids, which transmit the virus.
- **Fusarium Wilt (*Fusarium oxysporum*):**
 - Yellowing, wilting, and vascular discoloration.
 - Use resistant varieties and practice crop rotation.
- **Angular Leaf Spot (*Pseudomonas syringae* pv. *lachrymans*):**
 - Water-soaked lesions that become necrotic.
 - Apply copper-based fungicides and practice crop rotation.

Common Pests:

- **Aphids:**
 - Small, soft-bodied insects that cluster on the undersides of leaves.
 - Use insecticidal soaps or neem oil and encourage natural predators.
- **Cucumber Beetles (*Acalymma vittatum*, *Diabrotica* spp.):**
 - Feeding damage to leaves and transmitting bacterial wilt.
 - Use row covers, crop rotation, and insecticides.
- **Squash Bugs (*Anasa tristis*):**
 - Large, brownish bugs that feed on plant sap.
 - Handpick adults and eggs, and use insecticidal soap.
- **Whiteflies:**

- Tiny, white insects found on the undersides of leaves.
- Use reflective mulches and insecticidal soaps.
- **Spider Mites:**
- Minute arachnids causing stippling and webbing.
- Increase humidity and use predatory mites or insecticidal soaps.
- **Thrips:**
- Tiny insects causing silvering of leaves.
- Use reflective mulches and insecticidal soaps.
- **Cutworms:**
- Larvae that cut off seedlings at the soil level.
- Use collars around seedlings and biological controls.

Integrated Pest Management (IPM) practices, such as using resistant varieties, crop rotation, promoting beneficial insects, and judicious use of pesticides, can help manage both diseases and pests in cucurbit crops effectively. Regular monitoring and early intervention are crucial for successful disease and pest control.