

## Lesson B3–2

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# Maintaining Interior Plantscapes

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**Unit B.** Floriculture

**Problem Area 3.** Interior Plantscaping

**Lesson 2.** Maintaining Interior Plantscapes

### **New Mexico Content Standard:**

**Pathway Strand:** Plant Systems

**Standard: IV:** Exercise elements of design to enhance an environment (e.g., floral, forest, landscape, farm).

**Benchmark: IV-A:** Apply basic design elements and principles to create a design using plants.

**Performance Standard:** 1. Conduct a site evaluation for physical condition and design implications. 5. Select hard goods, supplies and tools used in design. 6. Select plant(s) for design.

**Student Learning Objectives.** Instruction in this lesson should result in students achieving the following objectives:

1. Identify the types of plants commonly used in interiorscapes.
2. Explain some of the problems associated with the care of interior plants.
3. Describe common tasks associated with plant maintenance.

**List of Resources.** The following resources may be useful in teaching this lesson:

**Recommended Resources.** One of the following resources should be selected to accompany the lesson:

Schroeder, Charles B., et al. *Introduction to Horticulture*, Third Edition. Danville, Illinois: Interstate Publishers, Inc., 2000.

*Foliage Plant Identification*. Urbana, Illinois: University of Illinois, ITCS (CD-ROM or slide set).

**Other Resources.** The following resources will be useful to students and teachers:

Biondo, Ronald J. and Dianne A. Noland. *Floriculture: From Greenhouse Production to Floral Design*. Danville, Illinois: Interstate Publishers, Inc., 2000.

Powell, Charles C. and Rosemarie Rossetti. *The Healthy Indoor Plant*. Columbus, Ohio: Rosewell Publishing, Inc., 1992.

## List of Equipment, Tools, Supplies, and Facilities

Writing surface  
Overhead projector  
Transparencies from attached masters

**Terms.** The following terms are presented in this lesson (shown in bold italics):

Acclimation  
Client contact  
Infections  
Infestations  
Plant maintenance technician  
Temperate climate plants  
Tropical plant

**Interest Approach.** Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

*Ask students to list 15 items they have seen during a recent trip to a shopping mall, hotel lobby, or hospital. Plants should be one of the items mentioned on some of the lists. Have students explain how they feel when they are around plants. Based on their answers, discuss the fact that owners of malls, hospitals, and hotels choose to feature plants in the interiors of their buildings because it gives people a good feeling. Explain that in order for the plants to remain healthy and attractive maintenance is required. Use this discussion to move into the lesson's first objective.*

# Summary of Content and Teaching Strategies

**Objective 1:** Identify the types of plants commonly used in interiorscapes.

**Anticipated Problem:** What types of plants are commonly used in interior landscaping?

- I. Tropical plants are used in interiorscapes. *Tropical plants* originally come from areas that do not freeze or have a winter season. *Temperate climate plants* experience both leaf drop and dormancy in the fall and winter months. For this reason, they are not often used in interiorscapes.
  - A. Tropical plants were originally gathered from the under story and floor of rain forests. For this reason, they have lower light requirements, which makes them adaptable to indoor settings. Today, most tropical plants are grown under shade in southern Florida. They are shipped to locations around the country where they are installed indoors. Before being installed, they require a six to ten week period, called acclimation. **Acclimation** is the process in which a plant becomes accustomed to a new environment. It involves growing the plant under lower light conditions and reducing fertilization rates two to six months before moving them.
  - B. Because of leaf drop and the dormancy periods they experience, temperate climate plants are not widely used in interiors of commercial buildings. Once their leaves drop, they become unattractive and do not convey a good feeling to people in the building. If the plants are removed, it will take time and expense to remove and replace them with other plants.

*Posters, flash cards, CD-ROM collections, and the Internet will be good sources for photos of tropical plants. Students could be given the task of learning to identify three to five new plants each day. Building a portfolio would assist in their effort. As they begin to identify the plants, make sure they have an understanding of care and growth requirements.*

**Objective 2:** Explain some of the problems associated with the care of interior plants.

**Anticipated Problem:** What are some of the problems of plants that are installed in the interiors of buildings?

- II. Plants used in commercial buildings experience stress. This stress is may be caused by the following:
  - A. Environment—this relates to the interior conditions of the buildings where plants are installed. Examples of environmental causes of stress are:
    1. Temperature—the interior of the building may be too hot or cold.
    2. Light—the intensity and duration of the light available to plants will impact their health and appearance.

3. Humidity—the interiors of most buildings are controlled by air conditioning and heating systems for the benefit of the buildings employees and patrons. Humidity levels for plants may not be considered. Most plants prefer high humidity levels.
- B. Design flaws—the person who designs a building is the architect. He or she may know nothing about the growth requirements of plants that will be installed indoors. Therefore, plants that grow too large or require greater amounts of maintenance may have been ordered. If flaws in the design are not caught before the plants are installed, the person responsible for the care of the plants (**plant maintenance technician**) will have more work. He or she will spend time in keeping the plants healthy through watering, pruning, and monitoring for disease and insect problems.
- C. Humans—humans may be the biggest detriment to the health of indoor plants. Plant containers are often used as trash containers or as places for children to climb. When these problems arise, it is the maintenance technician’s responsibility to inform the client contact. The **client contact** is the person on site who deals with the plant company. If the problem is not addressed, there is little the technician can do.

*Use TM: B3–2A to summarize the types of stress interior plants experience. Demonstrate the use of a light meter, sling psychrometer, and thermometer. After demonstrating these devices take a trip to a plant care facility, shopping mall, or hotel lobby. Have students take readings using the instruments. Also, have them observe the overall condition of the plants in the building. Determine whether the manager or building’s owner uses a plant maintenance service. Have the class compare and contrast the condition of plants in buildings that do and do not use maintenance services.*

**Objective 3:** Describe common tasks associated with plant maintenance.

**Anticipated Problem:** What are some common job responsibilities of a plant maintenance technician?

- III. A plant maintenance technician has a variety of responsibilities. These responsibilities include:
  - A. Weekly responsibilities—these tasks are carried out each time a technician visits a client. They involve the following types of jobs:
    1. Checking moisture levels.
    2. Dusting and cleaning leaves.
    3. Pruning or pinching back of new sprouts or unsightly branches.
    4. Removing and/or replacing damaged plants.
    5. Observing for infestations or infections. **Infestations** are the external presence of insects or mites. **Infections** refer to sicknesses caused by disease organisms.
    6. Observing external abuse caused by humans. Such abuse, if not corrected, could void the service agreement.
    7. Completing time sheets, maintenance records, and evaluations forms.

8. Communicating with the client contact. This is important to building a good working relationship that is based on trust and confidence.
- B. Other responsibilities that relate to all tasks performed by a technician involve the following:
1. Safety—technicians are working in public places, they need to take steps to avoid creating hazards. Tools and equipment should be kept out of the way of people visiting the building. Vehicles should be operated safely and parked in appropriate locations on the building's property.
  2. Contamination—a careless technician can spread plant insects and disease from one account to another through the use of contaminated rags, sponges, plant material, and pruners. Sponges and rags should be washed regularly. Pruners and scissors should be wiped with alcohol between uses.

*Use TM: B3–2B to summarize some of the tasks carried out by maintenance technicians. Ask a representative from a local plant maintenance company to the visit class. Have the person bring samples of the types of forms their technicians are required to complete. Set up a plant maintenance schedule for the plants in your school. Instruct students to carry out the necessary tasks and to complete the appropriate forms.*

**Review/Summary.** Focus the review and summary around the student learning objectives for the lesson. Call on students to explain the content associated with each objective. Use their responses to form the basis for determining whether any areas need to be covered in more detail. The questions at the end of the chapters in the references for the lesson will be helpful in reviewing.

**Application.** Use the appropriate exercises from the *Introduction to Horticulture Activity Manual* to help students in applying the lesson's content. Also, setting up a plant maintenance schedule for the plants in your school or an area business would be beneficial to applying these concepts.

**Evaluation.** Evaluation should be concentrated on student achievement of the lesson's objectives. Various techniques can be used, such as student performance on the evaluation activities. A sample written test is also attached.

## **Answers to Sample Test:**

### **Part One: Matching**

1 = c, 2 = a, 3 = b, 4 = d

### **Part Two: Completion**

1. plant maintenance technician
2. Infestation

3. infections

**Part Three: Short Answer**

1. Use TM: B3–2B as a guide in grading answers.
2. Use the information presented in Objective 3 as a guide in grading answers.

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# Test

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## Lesson B3–2: Maintaining Interior Plantscapes

### Part One: Matching

*Instructions.* Match the term with the correct response. Write the letter of the term by the definition.

- |                    |                             |
|--------------------|-----------------------------|
| a. acclimation     | c. client contact           |
| b. tropical plants | d. temperate climate plants |

- \_\_\_\_\_ 1. The person on site who deals with the plant company.
- \_\_\_\_\_ 2. The process in which a plant becomes accustomed to a new environment.
- \_\_\_\_\_ 3. Originally come from areas with no winter or freezing temperatures.
- \_\_\_\_\_ 4. Experience both leaf drop and dormancy in the fall and winter months.

### Part Two: Completion

*Instructions.* Provide the word or words to complete the following statements.

1. The person responsible for the care of plants after installation is the \_\_\_\_\_.
2. \_\_\_\_\_ is the external presence of insects.
3. Sicknesses caused by disease organisms are \_\_\_\_\_.

### Part Three: Short Answer

*Instructions.* Provide information to answer the following questions.

1. List and explain five tasks regularly undertaken by a plant maintenance technician.
  
  
  
  
  
2. Describe precautions a technician should take to prevent contaminating plants in different locations.

# CAUSES OF STRESS TO INTERIOR PLANTS

## ENVIRONMENT

- Temperature
- Light
- Humidity

## DESIGN FLAWS

- Installing plants in an inappropriate environment

## HUMANS

- Use planters as trash containers
- Children allowed to climb on plant containers

# **COMMON TASKS CARRIED OUT BY PLANT MAINTENANCE TECHNICIANS**

- 1. Checking moisture levels**
- 2. Dusting and cleaning leaves**
- 3. Pruning**
- 4. Removing and/or replacing damaged plants**
- 5. Observing for infestation and infection**
- 6. Checking for external abuse by humans**
- 7. Completing required forms**
- 8. Communicating with client**

## **Other Considerations:**

- Safety**
- Contamination**