

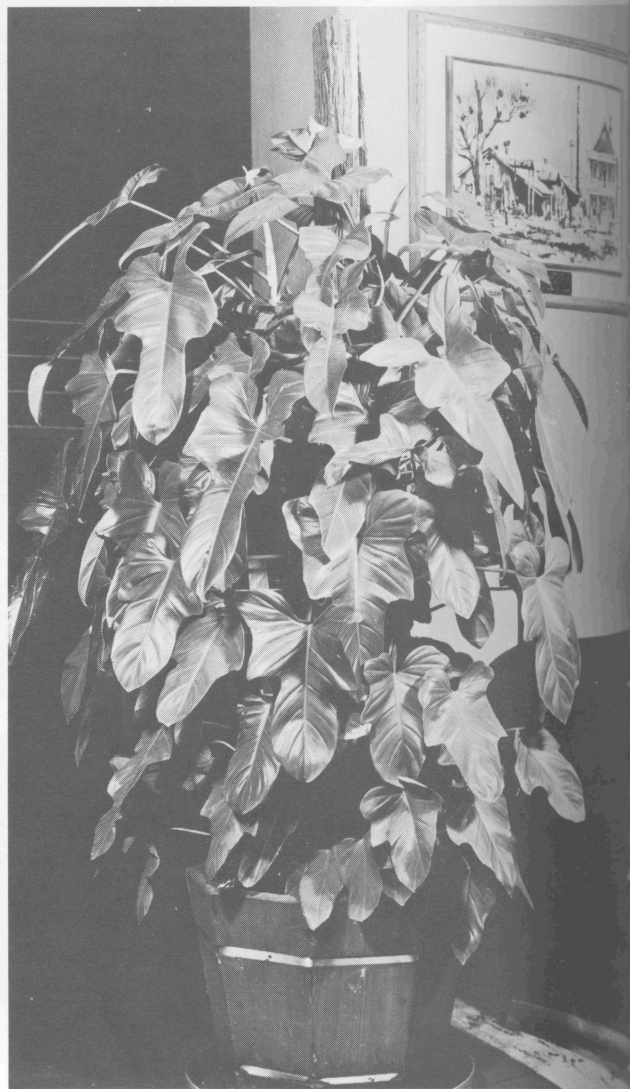
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Indoor Landscaping with Living Foliage Plants

Philodendron pertusum in same location for 26 months.



Philodendron panduraforme on totem pole as indoor landscape accent plant.

COVER PHOTO: Indoor planting with no natural light (after 3 years).

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Summary

Extensive marketing investigations, consumer preference studies and research on the adaptability of foliage plants for use in building interiors indicate that the market demand for tropical foliage plants will continue to increase and expand greatly if high quality plants can be produced and made available to the public. More and larger plants will have to be produced for use in high light intensity areas such as show windows, covered malls, patios and such. This will mean the production of large specimens of cacti, succulents, Crotons, Sansevierias and Bromeliads.

More large, trained plants on totem poles, hanging totem poles, hanging baskets, bromeliads and ferns in hanging containers and on other supports will be in demand. Well-established planted arrangements for various interior and exterior uses will be needed. Most of all, information on the proper locations in which to place the plants and planters will be required. The plants will have to be grown and established in ornamental containers, planter boxes and tubs. The trend toward apartment living has increased the demand for medium and large planter boxes and arrangements.

The information provided will have to include the scientific name, native habitat, desirable interior location and proper subsequent care of the plants and planters. Much of this will be demanded by consumers to satisfy the increasing "collector" desires for various groups of tropical plants such as cacti, succulents, Bromeliads, Peperomias, Philodendrons, gesneriads and such. Most of these services will have to be provided by the grower. The wider the variety of types and kinds of plants available, the more difficult it will be for the "plastics" to compete.

Fifteen years of study on the adaptability of these plants to building interiors and the problems encountered by consumers using these plants has shown that the main concern of the consumer is how long the plant will stay in good condition in a given

location and what he can do to keep it in good condition. This indicates that the consumer's main concern is to keep the plant in the condition in which he purchased it. This has made it possible to compile a list of specific details that can be provided to the consumer to assist him in keeping plants in a healthy condition to fit into certain situations in the home or building where they will be used.

These specific details for consumer information can be provided through the retailer by means of a card attached to each plant or planter sold. These details follow.

1. Air-conditioning is not detrimental to foliage plants.
2. Plants should not be placed in direct sunlight.
3. Plants should be kept in temperatures of approximately 60° F.
4. Plants should be watered lightly and infrequently.
5. Fertilizers should be applied lightly and infrequently.
6. Trained plants on totem poles and in baskets should have the tips pinched occasionally if the shape is to be maintained.
7. When, and if, weak spindly growth occurs on plants, it should be removed to keep the plant compact.

When such specific information is supplied to the consumer and he puts it into practice, he will be much more interested in and pleased with his plants. This will not only maintain the demand for foliage plants, but as consumers learn that caring for these plants is not a difficult and time-consuming task, their interest will increase and the demand also will increase. They will not only find new and different uses for plants, but they will become accustomed to them; and will not want to be without them; nor will they be satisfied with plastic imitations.

Indoor Landscaping with Living Foliage Plants

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Throughout human history the magic in plants and flowers has captured the imagination of man. Civilizations, from ancient times, have shared a love for ornamental plants for various reasons. These reasons range from mere fascination, or perhaps an inherent feeling for the qualities of animation in growing plants or for the natural beauty of plants and flowers, to the satisfaction gained from something that must be cultivated, much like the appreciation of fine music or fine art. Whatever the reason, multitudes of people, particularly in oriental countries and in western Europe, continue to buy and use plants and flowers in their homes even when it means they must forego some of the necessities of life.

Recent trends and changes in the mode of modern living in this country have been responsible for a revolution in indoor plants and gardening. This has resulted in an almost complete change from gardening indoors to indoor designing with plants, or to indoor landscaping.

USE OF PLANTS IN BUILDING INTERIORS

The use of plants in building interiors has become not only fashionable but necessary. Architects and interior decorators realize the value of the atmosphere of warmth and life created by living plants. Consequently, the design of contemporary homes and buildings now almost always includes locations suitable for living plants. More conventionally designed homes, however, also afford appropriate settings, but since less thought may have been given to the use of plants and interior plantings when these structures were designed, the choice of good locations for plants may be more limited.

Need for Indoor Landscapes

The use of plants in indoor landscaping now ranges from extensive covered malls in urban shopping areas, through commercial and public building

interiors, to modern homes with large expanses of glass, to older homes and apartments where the dish garden and portable planter have become decorative design features.

While credit must be given the architects and decorators for demonstrating the design value of living indoor plants, they can offer little, if any, assistance in determining the selection, culture and maintenance of such plants and plantings. The increasing interest in indoor landscaping with living plants must be fostered and developed by horticulturists who must make available a wider variety of types and sizes of desirable plants so that regardless of the type of indoor landscaping required, a suitable list of plants can be provided that will allow for a wider selection of forms, textures and colors.

Selecting Plants for Indoor Landscapes

In choosing plants for interior landscaping, two considerations are of primary importance: (1) the location of the plants and (2) the size of plant to use. These considerations are important because the location will determine to a large extent which plants can be used most satisfactorily and the size suitable for the particular surroundings.

The specific requirements themselves are often overemphasized in selecting plants for indoor locations. To begin with, the basic approach should not be "how to grow these plants" but rather "how do these plants grow?" When this basic concept is understood, properly selected living plants will provide great satisfaction for almost unbelievable periods of time. The indoor gardener when shown how to appreciate the growth and development of a living plant will soon be dissatisfied with a plastic replica

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of the real thing, since there is no imitation for life itself.

Plants grown indoors are often subjected to problems that would not arise outdoors. Outdoor grown plants can often adjust to faulty culture and maintenance. For example, when the soil becomes waterlogged, the roots may spread out or develop on the surface, and the plant survives. Plants grown in the limited environments of building interiors, however, are completely at the mercy of the grower. In the restrictions of a planter box, flower pot or tub, there is no other place for root development if they are flooded. Therefore, they are more subject to damage from mishandling than those grown outdoors.

The person who is to maintain an indoor landscape will benefit more from a basic knowledge of plant growth than from any instructions he might receive on how to grow specific plants. The processes that determine how a plant grows are controlled by the environment, the factors of which are light, temperature, gases, humidity, soil moisture and nutrients. All of these factors are interrelated, and all effect the height, strength and health of the plant.

Indoor Environmental Factors

The selection of plants for indoor landscaping, therefore, is dependent upon the environment. The problem can be approached in two ways: (1) the plant may be selected to suit the environment which exists in any given location, or (2) the environment may be changed to suit the plant selected.

Light

One of the most important above-ground factors of plant environment is light. The most efficient and abundant source of light is the sun. Light has three main characteristics: brightness or intensity, the length of day or duration and the kind or color of the light which is called light quality.

The process of food manufacture in plants is largely regulated by light intensity, and the more food the plant produces, the better it will grow. There are many exceptions to this, however. Many plants used for indoor landscapes cannot tolerate bright light. Those that originate in dense forests and jungles are usually injured when they are placed in high light intensities, while those from desert areas require high light conditions. Therefore, in selecting plants suitable for indoor landscaping, a knowledge of the origin of the plant is usually desirable.

Relative light intensities are important in maintaining proper light forms under interior conditions. In general, the higher the light intensity, the shorter the plant. Also, when the light source is unilateral, or falls only on one side of the plant, the plant will be bent away from the dark side.

The quality of light is not important when plants are grown entirely under natural sunlight, but it is of considerable importance when artificial light is provided for interior landscapes. Light with a large amount of red rays tends to make stems elongate and is important in securing daylength effects. Light rich in blue rays tends to produce short, stocky plants. Most types of incandescent lamps emit light with high red rays, and, in general, fluorescent lamps produce light rich in the blue or red part of the spectrum or sometimes both depending upon the type of lamp.

When artificial light is used as a supplement, the light quality and the temperature effects are of relatively minor importance because the principal source of light will be sunlight. When only artificial light is used the most suitable source to now is the fluorescent tube. These lamps can be placed close to the plants if necessary and will give a fairly high light intensity with a minimum of heat. A good rule to follow in the use of these tubes is to have half daylight and half natural white tubes. This will produce light excellent in both the blue and red wave lengths. In some locations, a mixture of incandescent and fluorescent light sources may be desirable, and incandescent spot or flood lights can be provided.

Where artificial light is the sole light source, the lights should be used for 12 to 16 hours during each 24-hour cycle unless some of the plants being grown are sensitive to day length. For this to be efficient and effective, the lights should be switched off and on automatically by a time clock. Under most normal conditions, enough lights should be installed to provide an illumination of from 200 to 500 foot-candles depending upon the kinds and types of plants being grown.

Recently, new fluorescent tubes have been introduced especially for horticultural use that promise to be more satisfactory. These tubes emit a pink light and can be used in any standard fluorescent fixture. They emit light high in both the blue and red regions and are sold under trade names.

Temperature

Temperature plays an important role in plant growth since it largely determines the rate at which plant processes occur. In general, plants require a lower night temperature than day temperature. Since modern building interiors are usually warm, tropical foliage plants are especially suited to this environment. All of the plants adaptable for interior decoration will provide satisfaction for long periods of time if a daytime temperature of 70 to 75 degrees Fahrenheit, and a night temperature of 60 to 65 degrees Fahrenheit can be maintained. In general, plants in high light intensities will thrive in the upper limits of this temperature range and those in low light will develop and grow best at the lower limits. Contrary

to popular belief, airconditioning is more beneficial than detrimental to good plant growth.

Gases

The gases in the air in the average building are adequate to support good plant growth, although the atmosphere in a tightly closed area might become deficient for optimum growth. In most buildings, the opening and closing of doors and windows and the inevitable leaks around these openings permit the necessary air changes. However, when artificial heating and cooling are used the year round, occasional opening of doors and windows to induce a change of air may be beneficial. This should be accomplished without a cold draft on the plants.

Gases harmful to plants in building interiors usually arise only from the incomplete combustion of natural or artificial gas, oil or coal. Some plants are much more susceptible to injury from these noxious gases than others.

Humidity

The amount of moisture in the air at any given time is referred to as humidity. However, careful attention to the maintenance requirements of plants used indoors makes the control of this factor less important than it has been in the past. Proper care in providing the soil moisture requirements and the proper temperature and light needs will do much to remove the detrimental effects of low humidities.

Humidifying systems are helpful but are seldom significantly effective for plant growth. The most beneficial method of supplying humidity will come from syringing the plants at intervals with tepid water. This raises the humidity temporarily and also washes dust and lint from the foliage. Where possible, good ventilation should be provided and a relative humidity of 35 to 45 percent should be maintained.

Soil Moisture and Nutrients

The soil used for supporting the plants in building interiors as well as out of doors must perform three main functions. (1) It acts as a reservoir for mineral nutrients. (2) It is a sponge from which roots draw water. (3) It is a source of oxygen for the roots.

A soil or growing medium for plants growing indoors should be loose and friable. It should have many air spaces and should crumble readily between the fingers when handled in potting and planting. It should also be capable of retaining these properties for extremely long periods of time. In other words, it should not pack, even after extended periods of use. Soils used for plants and plantings for indoor decoration should contain only moderate supplies

of nutrients because highly fertile media can be very detrimental.

The moisture level in the soil will require careful management. A deficiency of moisture for extended periods will cause wilting and slowing of all growth processes. Severe wilting and moisture deficiency in the soil can cause death to some plant cells and later browning and drying of the leaf margins.

When the amount of moisture is excessive, the water fills the air spaces in the soil and prevents the plant from obtaining the oxygen required for the roots to carry on respiration or "breathing." The activity of the roots slows and eventually stops, causing them to die, which later results in the death of the leaves and stems. Oxygen deficiency in the soil is, therefore, due either to overwatering or poor soil drainage caused by packing or improper preparation.

Summary of proper plant selection.

1. In growing plants for interior decoration, carefully consider each factor of the prevailing environment in its relationship to all other factors necessary for good plant growth. For example, the best possible soil mixture will not grow good plants if the proper light, temperature or water requirements are not provided.

2. Study carefully the environment of the locations in which you wish to place the plants.

3. Select the plants from the lists provided in the following pages that will be most adaptable to the environment or change the environment to suit the plants you want.

4. Research on the adaptability of many plants suitable for indoor landscaping and interior decoration has made it possible to group these plants into use groups for various environments. These lists are included as Appendix I and Appendix II.

MAINTENANCE OF INDOOR PLANTS FOR LONG-TERM SATISFACTION

The proper selection of plants is the first consideration for long-term satisfaction, but the proper maintenance of the plantings afterward is of equal or perhaps greater importance.

The plants normally will be planted in approximately the size and form required for a particular decorative purpose. Such plants, then, are most desirable when they make only very slow growth and maintain generally attractive proportions. When these plants make rapid growth indoors (except in locations where the light requirements are at the optimum), they produce a soft, spindling growth and unattractive appearance. The primary consideration in maintaining indoor plantings, therefore, is to keep the plants and plantings in good, green, healthy condition at all times by properly managing the environmental factors and in training the plants to remain

attractive in these environments for extended periods of time.

Planting Procedures

Plants can be readily "trained" to remain attractive for long periods of time while making growth only at a very slow rate. The first consideration is to keep the soil or growing medium moderately dry. The best method to use in accomplishing this is "double potting" which can be accomplished in the following manner: plants well established and hardened off in clay pots are placed in other containers at least 2 inches larger in diameter than the clay pot. The area around and above the clay pots in the other containers or planter boxes is then filled with a mixture of peat and perlite, peat-moss or sphagnum moss which has been thoroughly moistened before it is used. The plants should be watered well at the time of the "double potting" operation.

The soil around the roots in the clay pot dries slowly over a period of several days or weeks.

Water is never again applied to the soil within the clay pots but only to the material surrounding the *outside* of these pots.

By using this method of watering, the soil around the plant roots is kept moderately but safely dry for relatively long periods of time, and this is conducive to slow, healthy and attractive growth of plants for indoor decoration.

When new plantings are made using the "double pot" method, they may need additional water fairly often during the first few weeks after planting. However, after they have adjusted to the new environment, less frequent applications of water will be required. The basic consideration is to prevent the plantings, old or new, from wilting. Overwatering can be avoided by never putting additional water in the soil immediately around the roots in the clay pot. Keeping the soil wet produces soft, spindly unattractive growth, favors the development of plant diseases and causes the loss of the lower leaves on the plants.

Soils and Fertilizers

Extensive research during the past 10 years at The Texas Agricultural Experiment Station has shown that an excellent growing medium for plants used in indoor situations can be prepared as follows:

- 1/2 bushel sphagnum peat moss
- 1/2 bushel horticultural grade perlite
- 2 ounces 20 percent superphosphate
- 2 ounces dolomitic limestone
- 2 ounces gypsum
- 4 ounces slowly available complete fertilizer (1-2-1 ratio)

The mixture is approximately 50 percent lighter in weight than mixtures containing garden soils. The materials are readily available, sterile, uniform in grade and reasonable in cost. The mixture does not shrink or compact when watered over long periods of time, it is well drained and soil disease problems are reduced.

The maintenance of soil fertility in indoor planting is closely related to the maintenance of soil moisture. Moderation is extremely important in both. In general, when the sole light source is artificial light, the plants will require only about 30 percent as much fertilization as those grown in natural light. A light feeding of a liquid fertilizer, commonly used for house plants, applied every 6 months will be sufficient.

Light and Temperature

The light intensities given on the lists of selected plants are the minimum preferences and tolerances for plants to be grown for several years under indoor conditions. However, all the plants on the list will grow and remain attractive for a period of 12 months or longer at light intensities much lower than those shown on the lists. For instance, the plants listed under low, medium and high light intensities will remain healthy and attractive for a period of 1 year or longer at the following minimum light intensities, if the light is provided for 16 hours per 24-hour cycle.

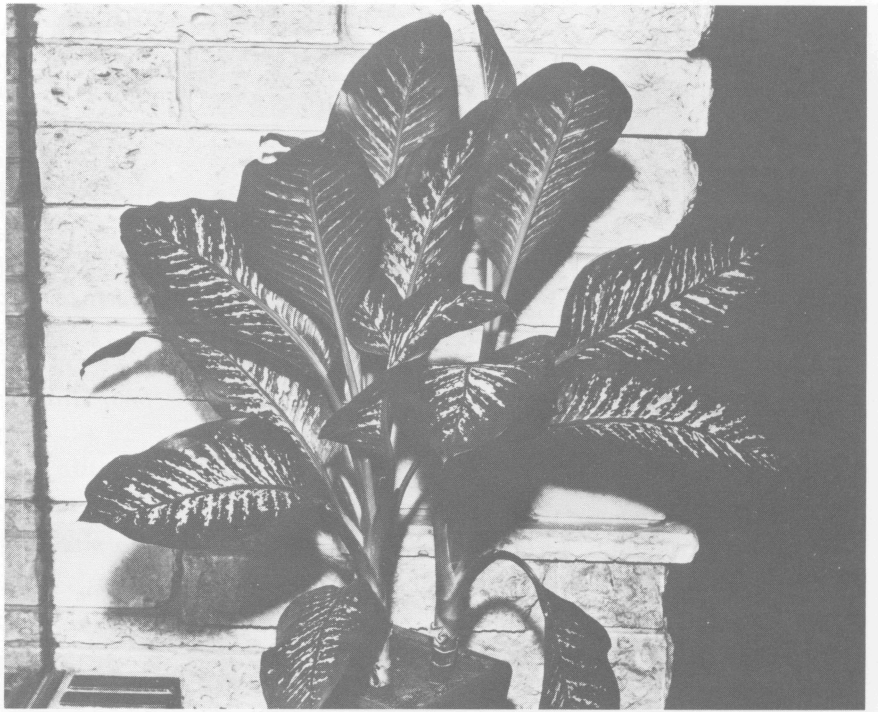
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| Low light requirement | 15 to 25 foot-candles minimum |
| Medium light requirement | 30 to 50 foot-candles minimum |
| High light requirement | 60 to 100 foot-candles minimum |

The maintenance of minimum light requirements is not as exacting as might be supposed. Actually the brighter the light provided, the shorter the period of illumination required. For example, 30 foot-candles of light supplied for 10 hours will maintain some plants as well as 20 foot-candles of light supplied for 16 hours daily.

The kind of light provided is also important in maintaining good appearance of indoor plantings for extended periods of time. When only the "daylight" type of fluorescent light is used, the color of many plants takes on a cold or faded appearance, and the rich, healthy, green appearance is diminished. The addition of incandescent light overcomes this undesirable effect and improves the health of the plants. Incandescent light can be provided by the use of spotlights or floodlights. These lamps produce high light intensities without affecting the room or plant temperatures and are effective for accenting plants or plantings in indoor landscapes.

Pruning, Training and Cleaning Plants

Many plants now used for indoor landscaping and as individual specimen plants in tubs have been



Dieffenbachia amoena
After 15 months in same location in bank lobby.



Colidaeum variegatum in same location for 30 months.

trained and grown to provide a certain form or purpose. Some pinching, pruning and training will be required to keep these plants within bounds and maintain a healthy condition. When the indoor plantings have been established for some time, the growing tips of the plants may be removed by pinching. This causes the plant to branch out with several stems and helps it maintain its original shape and form.

Pinching and training indoor plants and plantings should be done according to a definite plan and predetermined schedule before the plant grows out of bounds or becomes spindly and weak. Plants used in indoor plantings for several years that have outgrown their required shape and form will often require more severe pruning and should be cut back and shaped to force them to retain their original compact and desirable form. When a planned and scheduled program of pinching and training is followed, this is usually unnecessary.

Indoor plants must contend with another problem to which outdoor plants are seldom exposed. This is dust. When the leaves are covered with dust, they cannot carry on transpiration in a normal manner. To keep leaves free of dust, clean them once or twice a month with a soft camel's hair brush or a damp cloth or sponge.

Many commercial firms which plant and maintain indoor plantings use various materials to make the foliage shine. The materials used for this purpose are skim or nonfat milk, or mild soap and water solutions. Several commercial leaf polishes are available. If such materials are used, water the plants several hours before application to avoid burning the foliage. *Avoid the use of oil of any kind.*

A high shine can be placed on the foliage of indoor plants by a gentle rubbing with soft cheesecloth or a fine camel's hair or sable brush. The natural oils in the leaves will produce a high gloss.

Plants with pubescent leaves such as African Violets will benefit from an occasional syringing with clean warm water at room temperature. This routine washing will also help keep the plants free of mealybug, thrips and mites.

Summary of maintenance requirements.

1. Plants should be watered lightly and infrequently.
2. They should not be placed in direct sunlight.
3. Keep in temperatures of 60 degrees or above.
4. Fertilize lightly only once every 6 months.
5. Air conditioning is not detrimental to foliage plants (when they are properly hardened off before they are sold).

Diagnosing Troubles

Some symptoms of common foliage plant troubles which may arise under indoor conditions, and their causes, are

1. Lower leaves turn yellow and drop off at the slightest touch — usually *overwatering*.
2. Burned margins or brown tips on leaves — *allowed to become too dry for short periods — too much fertilizer — low temperatures*.
3. Yellowing and dropping of leaves at various levels on plant — *gas fumes, chilling, overwatering, poor drainage and aeration*.
4. Small leaves — *poorly drained soil, tight soil mixture — soil too dry over long periods*.
5. Weak growth, light green or yellow foliage — *too much light, root rot, poor root system*.
6. Yellow, wilted — *soft growth — too high temperature — root injury*.
7. Small leaves, long internodes — *lack of sufficient light — high temperatures*.

PRODUCING AND MARKETING LONG-LASTING FOLIAGE PLANTS

Although marketing data indicate that the consumer demand for foliage plants is steadily increasing, many growers are experiencing difficulty in moving their present production at a profit. What are some of the reasons for this apparent contradiction?

The development of life-like plastic replicas of the more commonly grown tropical foliage plants cannot be overlooked, but its importance should not be overemphasized, nor should it be considered as a trend that will lead the foliage plant market into oblivion. Whatever the underlying reasons for the use of plastic plants, being inexpensive is not one of them. The cost of large specimens is from three to five times the cost of a living plant of the same size.

The problem most responsible for the present marketing inconsistencies is the failure of growers as a whole to produce high quality plants. This, as always, is blamed upon poor market returns. In most cases, poor market returns have been the direct result of poor quality production in an effort to make the competition one of price only. This has led to an ever increasing amount of low quality, almost distress merchandise reaching the market. While this situation is now improving, it is still serious.

Quality production is the first, and probably most important, consideration in improving this market since price is *not* a serious limiting factor in consumer demand. Consumer preference studies have definitely proved that consumers want, and will use, foliage plants rather extensively if they can secure high quality plants, properly identified, with accurate



Oakleaf Croton

Photographed after 38 months in the same building interior location.



Planter boxes of *Pandanus vietchi* after 31 months in lobby of public building.



Schefflera digitata

Photographed after 5 years in same location in public building foyer.

information on their habit of growth, subsequent care and use in the home. Only when these requirements have been met does price appear to enter into buying decisions.

One reason the present market situation exists is that the grower who *finishes* foliage plants for the consumer market gives them improper environment and care when he receives them from the propagator or supplier. This is further intensified by the improper care given them in retail outlets before they are purchased by the consumer. Thus, even high quality, smaller plants eventually may reach the consumer as low quality plants.

Most of the foliage plants grown today are native to tropical areas — either rain-forests or deserts. It is extremely important that producer, seller and consumer realize this to understand the cultural requirements involved in maintaining these plants in good condition.

Environmental Requirements

Temperature control is very important in producing quality plants. Night temperatures from 70° to 75° F are imperative, and day temperatures should be kept from 85° to 90° F. Many growers receive these plants from propagators or suppliers in Florida, Texas, California or Puerto Rico and place them in a greenhouse with other crops where night temperatures of 60° F are maintained. This treatment will not result in high quality finished plants. Night temperatures of 60° F are high enough for holding most foliage plants that are ready for sale, but they are not sufficiently high for good healthy growth during the production process.

The succulents and cacti which originated in hot, dry areas should be grown in greenhouses where relative humidities of from 50 to 65 percent can be maintained. In addition to the general groups of cacti and succulents, Peperomias, Sansevierias, Dracaenas, Scindapsus and Dieffenbachias also will do much better in relative humidity lower than that required for most of the large leaved foliage plants. These plants develop serious disease problems when grown under high humidities.

Foliage plant items such as Philodendrons, Syngoniums, Aglaonemas and such which come from tropical rain forests require humidities of 75 percent or above to produce high quality growth. These high humidity requirements may be satisfied by frequent syringing, but this is laborious and costly. It is, therefore, often neglected or overlooked and also often results in overwatering. A much better method is the installation of a fogging system to provide the required humidity. When such a system is employed, however, it should be equipped with nozzles which emit a very fine spray that will maintain high humidity without wetting or leaching the soil in which the plants are being grown.

Growers specializing in foliage plant production usually use oil burning nozzles with 500 to 600 pounds of pressure for this purpose. For smaller growers, lower pressures with the proper type nozzles may prove to be equally effective if properly installed. In many areas, a pad and fan cooling system will provide sufficient humidity during the summer, but the humidity is equally essential during the winter. Usually some other provision must be made to maintain high humidities during this period.

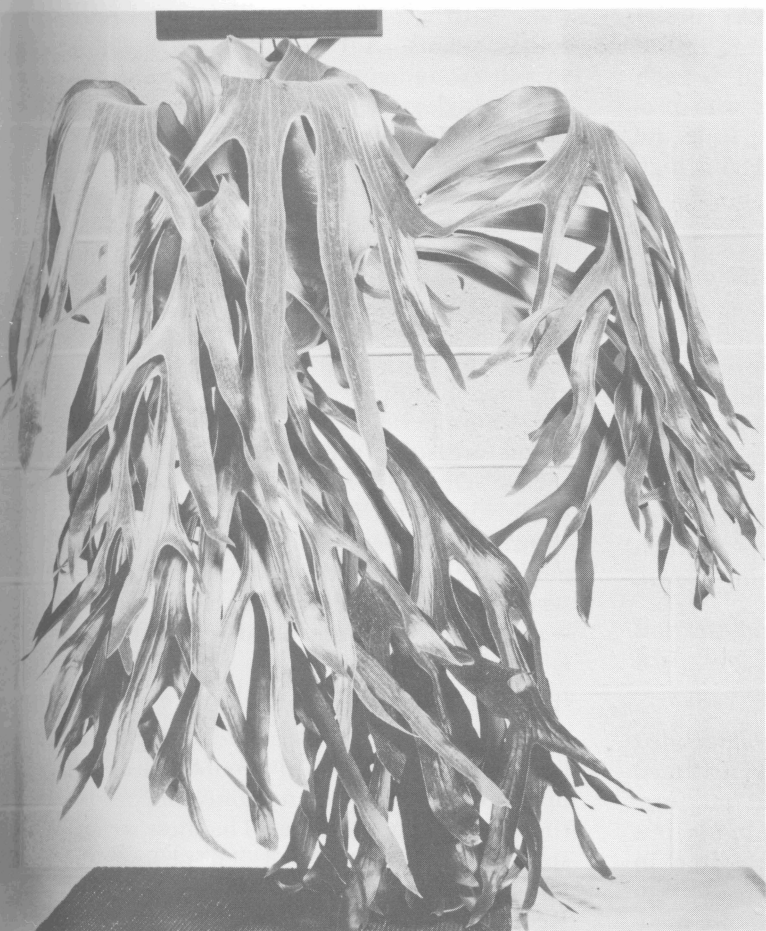
The light requirements for foliage plant production are also quite exacting and are one of the environmental factors often neglected or disregarded by greenhouse growers who furnish foliage plants for resale. Again, these can best be provided by grouping similar plants based largely upon their native habitat. Aglaonemas, Ferns, Marantas, Fittonias and similar subjects require light of very low intensity, about 500 to 600 foot-candles. This, however, does not mean they should be grown under greenhouse benches and neglected or overlooked.

Dieffenbachias grow most abundantly in light intensities of about 1,000 to 1,200 foot-candles to produce good color and strong vigorous plants. Other tropical rain forest plants such as Philodendrons and Syngoniums produce their best growth in light intensities from 1,500 to 1,600 foot-candles, while Sansevierias, Peperomias, Bromeliads, Dracaena and many of the succulent plants do best at 1,800 to 2,000 foot-candles. Even the harder succulents and cacti will not stand clear glass light intensities under Texas conditions during the summer. The best procedure is to meter the light intensities in the particular area and supply the shade required to grow each group of plants successfully.

The light intensity recommendations made here may be varied considerably to make the production of these plants more efficient and practical; however, any attempt to grow Peperomias and Aglaonema on the same bench will surely produce poor results on one or the other of these crops. If the bench is suitable for Bromeliads and Peperomias, the Aglaonema or Maranta will be yellow and stunted, and if the light is proper for the Aglaonema or Marantas, the Peperomias will be soft and spindly and probably will become diseased and rot off at the soil line.

The shading required can be provided by the use of shading compounds on the glass, but the use of cloth inside the greenhouse in addition to, or without the exterior shading is also recommended for the high light intensity conditions which prevail throughout most areas in Texas throughout the year.

The majority of tropical plants that grow in the rain forests of the tropics are found under trees where accumulations of leaves and other organic materials form the basis of the soil in which they grow. Cacti and succulents are found growing in areas



Platyterium allicorne as hanging basket.



Ficus, *Codiaeum*
and *Philodendron*
Photographed after
30 months in the
same location in
public building
lobby.

where the soil is extremely sandy or rocky under natural conditions. For this reason, the large leaved foliage plants should be grown in soil that is high in organic matter. Many of the specialists who propagate and grow foliage plants on a large scale use only sphagnum peat because of its low pH and high porosity.

Extensive research at The Texas Agricultural Experiment Station during the past 7 years on the production and adaptation of tropical foliage plants to interior conditions has shown that combinations of calcined clay and sphagnum peat and of horticultural perlite and peat will produce high quality forage plants. When clay soils are incorporated into the mixtures, less satisfactory results are obtained. In these investigations, excellent results have been obtained with the use of a mixture of 50 percent horticultural perlite and 50 percent sphagnum peat when properly watered for the particular plant being grown.

In any event, the organic material and the soil used should provide a medium that *will not pack* and that will provide adequate root aeration.

When shifting these plants, it is recommended that *moist* peat or moist peat and perlite, well firmed around the ball, be used instead of a soil mixture. This will prevent the original ball from drying out unduly and will provide a well-aerated medium in which new roots can develop readily. It is well to pot or shift Scindapsus or Pothos into a moist medium and then withhold water until roots begin to develop.

Peperomias and other succulents and cacti, however, must be grown in a medium that will not hold too much moisture since this usually results in loss from disease. The peat and perlite mixture with one-third fine gravel added works well for these plants unless it is watered excessively or too often.

The nutrient requirements of foliage plants are much more exacting than those of most other greenhouse crops. Most of the foliage plants grown today do best in a pH of from 4 to 5, but most also will suffer from lack of available calcium. Due to the fact that a pH lower than that required for most greenhouse crops should be maintained, the use of the nitrate forms of nitrogen rather than the ammonium forms is highly recommended.

The use of soluble liquid fertilizer has proved to be the best method of applying nutrients. While any good formula will usually prove to be satisfactory,

those with a 2-1-2 ratio will be most satisfactory for foliage plants. A 10-5-10 analysis would be superior to others under most circumstances. The majority of the high-grade soluble fertilizer formulas on the market today often contain a very high phosphorus content which may be detrimental in foliage plant production. When such mixtures are used, the calcium levels should be watched carefully. Trace elements probably should not be applied unless a definite need for them has been demonstrated.

The control of insect pests on foliage plants is important since any infestation of the major insect enemies of foliage plants will reduce quality in a very short period of time. The major pests of these plants are scale, mealy bug, aphids, red spider and thrips. On most foliage plants fumigating, spraying or dusting with Parathion or Malathion will give control. However, most of the succulents, cacti, pileas and some Philodendrons are damaged by these materials. Others may have to be used in specific cases — such as nicotine for aphids, Lindane for thrips and Chlorobenzilate for red spider. Dithion is also good for mealy bug and red spider.

The high temperatures and high humidities required for the successful production of foliage plants makes disease control not only important but sometimes extremely difficult. The most serious and widespread diseases are pythium, phytophthora, rhizoctonia and anthracnose and the bacterial diseases. Regular and constant spray schedules must be maintained to avoid losses.

The best results to date have been secured with the use of the following materials: for general purpose spraying, Captan and Morsodren; for rhizoctonia and other root and stem rots, Terrachlor; for phytophthora and leaf-spots, Parzate; and for a general soil drench for soil-borne diseases, Morsodren. For bacterial disease, Agrimycin has been generally effective when used properly. For best effects, all diseased foliage should be removed from plants; then the Agrimycin should be applied at 3-day intervals for 12 days. Peperomias and other thick-leaved succulents subject to fungus diseases should be sprayed with Captan on a regular schedule, and all diseased plants should be discarded.

In greenhouses in which a wide variety of Peperomias, Kalanchoes and similar succulents are grown, a physiological trouble called oedema causes the formation of corky growth on the leaves and stems. This condition is usually due to sudden changes in temperature or to excessive humidities.

APPENDIX I

A Selected List of Exotic Plants and Their Adaptability to Building Interiors

Key to Plant Maintenance Requirements

Light Requirements:

HIGH — *Bright Light or Full Sun:* Preference: 5,000 to 8,000 foot-candles for average length of day. Tolerance: 1,000 to 2,000 foot-candles with 12-hour illumination. Minimum: 60 to 100 foot-candles with 16 hours illumination.

MEDIUM — *Diffused or Filtered Light:* Preference: 1,000 to 5,000 foot-candles for average length of day. Tolerance: 500 to 1,000 foot-candles with 12-hour illumination. Simple test: When hand is passed between plants and light source, shadow cast by hand should be barely visible. Minimum: 30 to 50 foot-candles with 16 hours illumination.

LOW — *No Direct Light:* Preference: 100 to 500 foot-candles for average length of day. Tolerance: 50 to 100 foot-candles with 12-hour illumination. Minimum: 15 to 25 foot-candles with 16 hours illumination.

Soil Moisture Requirements:

DRY — Soil should be dry for best growth; only occasional waterings should be given to moisten soil thoroughly at 3 or 4-week intervals. Dry, sandy, well-drained soil should be used. Exam-

ples: Cacti and other succulents, Peperomias and Sansevierias.

MOIST — Soil should be kept uniformly moist but never wet. Allow soil to become moderately dry before watering and then water thoroughly. Plants have delicate fine roots which will rot when soil is wet.

WET — Soil should never be allowed to become dry. Excellent drainage should be provided in containers so that air is available in soil. Water should never stand on soil surface when it is applied or should never be allowed to stand in saucers under containers.

Plant Use Requirements:

TUB PLANTS or LARGE PLANTERS — Plants which develop into large specimens suitable for lobby decorations in public buildings or to be placed on floor in homes for interior decoration.

VINES — Plants that require support such as trellises or totem poles or that can be used for ground covers in interior planter boxes or hanging baskets or as trailing plants on ledges or over the edges of interior planter boxes.

SMALL PLANTERS — Plants suitable for small novelty containers, dish gardens, small pots or for edges or borders of interior planting boxes or beds. Care should be taken in using these plants in combination to insure all plants used have identical light and moisture requirements.

LIST OF 110 MOST ADAPTABLE PLANTS WITH RECOMMENDATIONS FOR LOCATION AND USE

| No. | Name of Plant | Light | | | Soil Moisture | | | Uses | | |
|-----|--|-------|--------|-----|---------------|-------|-----|------|------|---------------|
| | | High | Medium | Low | Dry | Moist | Wet | Tub | Vine | Small Planter |
| 1. | <i>Acanthus montanus</i> | | X | | | X | | X | | |
| 2. | <i>Aglaonema commutatum</i> | | | X | | X | | X | | X |
| 3. | <i>Aglaonema modestum</i> | | | X | | X | | | | X |
| 4. | <i>Aglaonema robellini</i> | | | X | | X | | X | | X |
| 5. | <i>Aloe variegata</i> | X | | | X | | | | | X |
| 6. | <i>Asplenium nidus</i> | | | X | | | X | X | | X |
| 7. | <i>Beaucarnia recurvata</i> | X | | | X | | | X | | |
| 8. | <i>Begonia rex</i> | | X | | | X | | | | X |
| 9. | <i>Caladium, Fancyleaved</i> | | X | | | X | | X | | X |
| 10. | <i>Caladium, Lanceleaved</i> | | X | | | X | | | | X |
| 11. | <i>Chlorophytum elatum</i> | | X | | | X | | X | X | X |
| 12. | <i>Cissus antarctica</i> | | X | | | X | | | X | |
| 13. | <i>Cissus erosa</i> | | X | | | X | | | X | |
| 14. | <i>Cissus quadrangularis</i> | X | | | X | | | | X | X |
| 15. | <i>Cissus rhombilfolia</i> | | X | | | X | | | X | |
| 16. | <i>Codiaeum craigi supreme</i> | X | | | | X | | X | | |
| 17. | <i>Codiaeum elegantissima</i> | X | | | | X | | X | | |
| 18. | <i>Costus speciosa</i> | | X | | | X | | X | | |
| 19. | <i>Crassula arborescens tricolor</i> | X | | | X | | | | | X |
| 20. | <i>Dieffenbachia amoena</i> | | X | | | X | | X | | |
| 21. | <i>Dieffenbachia picta</i> | | X | | | X | | X | | |
| 22. | <i>Dracaena deremensis warnecki</i> | | X | | | X | | X | | |
| 23. | <i>Dracaena draco</i> | | X | | | X | | X | | |
| 24. | <i>Dracaena godseffiana</i> | | X | | | X | | | | X |
| 25. | <i>Dracaena marginata</i> | | X | | | X | | X | | X |
| 26. | <i>Dracaena sanderiana</i> | | X | | | X | | | | X |
| 27. | <i>Euphorbia lophogona</i> | X | | | X | | | X | | X |
| 28. | <i>Euphorbia mili</i> | X | | | X | | | X | | X |
| 29. | <i>Fatsyhedera lizei</i> | X | | | | X | | X | | X |
| 30. | <i>Ficus benghalensis</i> | | X | | | X | | X | | |
| 31. | <i>Ficus benjamini exotica</i> | | X | | | X | | X | | |
| 32. | <i>Ficus eburnea</i> | | X | | | X | | X | | |
| 33. | <i>Ficus elastica</i> | | X | | | X | | X | | |
| 34. | <i>Ficus elastica decora</i> | | X | | | X | | X | | |
| 35. | <i>Ficus elastica variegated</i> | | X | | | X | | X | | |
| 36. | <i>Ficus macrophylla</i> | | X | | | X | | X | | |
| 37. | <i>Ficus nitida (retusa)</i> | | X | | | X | | X | | X |
| 38. | <i>Ficus pandurata</i> | | X | | | X | | X | | |
| 39. | <i>Ficus religiosa</i> | | X | | | X | | X | | |
| 40. | <i>Ficus rubiginosa variegated (australis)</i> | | X | | | X | | X | | X |
| 41. | <i>Gynura aurantiaca</i> | X | | | | X | | X | | X |
| 42. | <i>Hedera canariensis variegated</i> | X | | | | X | | | X | |
| 43. | <i>Hedera helix Gold Dust</i> | X | | | | X | | X | X | X |
| 44. | <i>Hedera helix Green Ripples</i> | X | | | | X | | X | X | X |
| 45. | <i>Hedera helix Hahn's Variegated</i> | X | | | | X | | X | X | X |
| 46. | <i>Hedera helix Hahn's Self Branching</i> | X | | | | X | | X | X | X |
| 47. | <i>Hibiscus rosa-sinensis cooperi</i> | X | | | | X | | X | | X |
| 48. | <i>Homocladium platycladum</i> | X | | | | X | | X | | X |
| 49. | <i>Hoya australis</i> | X | | | X | | | X | X | |
| 50. | <i>Hoya carnososa</i> | X | | | X | | | X | X | X |
| 51. | <i>Hoya carnososa variegated</i> | X | | | X | | | X | X | X |
| 52. | <i>Kalanchoe tomentosa</i> | X | | | X | | | | | X |
| 53. | <i>Ligularia kaempferi aureo-maculata</i> | | X | | | X | | X | | X |
| 54. | <i>Pandanus baptisti</i> | | X | | X | | | X | | |
| 55. | <i>Pandanus sanderi</i> | | X | | X | | | X | | |

LIST OF 110 MOST ADAPTABLE PLANTS WITH RECOMMENDATIONS FOR LOCATION AND USE

| No. | Name of Plant | Light | | | Soil Moisture | | | Uses | | |
|------|---|-------|--------|-----|---------------|-------|-----|------|------|---------------|
| | | High | Medium | Low | Dry | Moist | Wet | Tub | Vine | Small Planter |
| 56. | <i>Pandanus utilis</i> | | X | | X | | | X | | |
| 57. | <i>Pedilanthus tithymaloides</i> | X | | | X | | | X | | X |
| 58. | <i>Peperomia acuminata</i> | | X | | X | | | | | X |
| 59. | <i>Peperomia astrid</i> | | X | | X | | | | | X |
| 60. | <i>Peperomia clusaefolia</i> variegated | | X | | X | | | | | X |
| 61. | <i>Peperomia glabella</i> variegated | | X | | X | | | | | X |
| 62. | <i>Peperomia hederifolia</i> | | X | | X | | | | | X |
| 63. | <i>Peperomia incana</i> | | X | | X | | | | | X |
| 64. | <i>Peperomia minima</i> | | X | | X | | | | | X |
| 65. | <i>Peperomia obtusifolia</i> | | X | | X | | | | | X |
| 66. | <i>Peperomia obtusifolia</i> variegated | | X | | X | | | | | X |
| 67. | <i>Peperomia pereskifolia</i> | | X | | X | | | | | X |
| 68. | <i>Peperomia pereskifolia</i> | | X | | X | | | | | X |
| 69. | <i>Peperomia sandersi</i> | | X | | X | | | | | X |
| 70. | <i>Philodendron cordatum</i> | | X | | | X | | X | X | X |
| 71. | <i>Philodendron dubia</i> | | X | | | X | | X | X | |
| 72. | <i>Philodendron erubescens</i> | | X | | | X | | X | X | |
| 73. | <i>Philodendron friederichstahli</i> | | X | | | X | | X | X | |
| 74. | <i>Philodendron guttiferum</i> | | X | | | X | | X | X | X |
| 75. | <i>Philodendron hastatum</i> | | X | | | X | | X | X | |
| 76. | <i>Philodendron karstenianum</i> | | X | | | X | | X | X | |
| 77. | <i>Philodendron lacerum</i> | | X | | | X | | X | X | |
| 78. | <i>Philodendron melinoni</i> | | X | | | X | | X | X | |
| 79. | <i>Philodendron panduriforme</i> | | X | | | X | | X | X | |
| 80. | <i>Philodendron pitteri</i> | | X | | | X | | X | X | |
| 81. | <i>Philodendron radiata</i> | | X | | | X | | X | X | |
| 82. | <i>Philodendron sodiroi</i> | | X | | | X | | X | X | X |
| 83. | <i>Philodendron squamiferum</i> | | X | | | X | | X | X | X |
| 84. | <i>Piper ornatum</i> | | X | | | X | | X | X | X |
| 85. | <i>Polyscias balfouriana</i> | | X | | | X | | X | | X |
| 86. | <i>Polyscias paniculata</i> | | X | | | X | | X | | |
| 87. | <i>Rhoeo discolor</i> | X | | | X | | | X | | X |
| 88. | <i>Ruellia makayoana</i> | | X | | | X | | | | Baskets X |
| 89. | <i>Sanchezia nobilis</i> variegated | | X | | | X | | X | | |
| 90. | <i>Sansevieria Bantel's Sensation</i> | X | | | X | | | X | | X |
| 91. | <i>Sansevieria cylindricus</i> | X | | | X | | | X | | X |
| 92. | <i>Sansevieria ehrenbergi</i> | X | | | X | | | X | | X |
| 93. | <i>Sansevieria trifasciata hahni</i> | X | | | X | | | | | X |
| 94. | <i>Sansevieria liberica</i> | X | | | X | | | X | | X |
| 95. | <i>Sansevieria parva</i> | X | | | X | | | X | | X |
| 96. | <i>Sansevieria subspicata</i> | X | | | X | | | X | | X |
| 97. | <i>Sansevieria suffruticosa</i> | X | | | X | | | X | | X |
| 98. | <i>Sansevieria trifasciata laurenti</i> | X | | | X | | | X | | X |
| 99. | <i>Schefflera actinophylla</i> | | X | | X | | | X | | |
| 100. | <i>Scindapsus aureus</i> | | X | | X | | | X | X | X |
| 101. | <i>Scindapsus aureus wilcox</i> | | X | | X | | | X | X | X |
| 102. | <i>Synadenium granti</i> | X | | | X | | | X | | X |
| 103. | <i>Syngonium albo-lineata</i> | | X | | | X | | X | X | X |
| 104. | <i>Syngonium auritum</i> | | X | | | X | | X | X | |
| 105. | <i>Syngonium green gold</i> | | X | | | X | | X | X | X |
| 106. | <i>Syngonium hoffmani</i> | | X | | | X | | X | X | |
| 107. | <i>Syngonium ligulatum</i> | | X | | | X | | X | X | |
| 108. | <i>Syngonium podophyllum</i> | | X | | | X | | X | X | X |
| 109. | <i>Syngonium wendlandi</i> | | X | | | X | | X | X | X |
| 110. | <i>Syngonium white gold</i> | | X | | | X | | | X | X |

APPENDIX 2

Specific Uses of Plants for Indoor Gardening

Plants That Will Grow in Water

| SCIENTIFIC NAME | COMMON NAME |
|--------------------------------------|-------------------|
| <i>Aglaonema modestum</i> | Chinese Evergreen |
| <i>Crassula arborescens</i> | Jade Plant |
| <i>Dieffenbachia</i> (all varieties) | Dumbcane |
| <i>Hedera helix</i> (all varieties) | English Ivy |
| <i>Hemigraphis colorata</i> | Hemigraphis |
| <i>Philodendron cordatum</i> | |
| <i>Philodendron micans</i> | |
| <i>Scindapsus aureus</i> | Devil's Ivy |
| <i>Syngonium podophyllum</i> | Arrowhead |
| <i>Tradescantia</i> (all varieties) | Wandering Jew |

Plants That Will Withstand Most Adverse House Conditions and Abuse

| SCIENTIFIC NAME | COMMON NAME |
|---|--------------------------|
| <i>Aglaonema modestum</i> | Chinese Evergreen |
| <i>Anthurium aenulum</i> | Climbing Anthurium |
| <i>Aspidistra elatior</i> | Iron Plant |
| <i>Cissus rhombifolia</i> | Grape Ivy |
| <i>Crassula arborescens</i> | Jade Plant |
| <i>Dieffenbachia amoena</i> | Dumbcane |
| <i>Dracaena fragrans massange</i> | Dracaena |
| <i>Euphorbia mili</i> | Crown of Thorns |
| <i>Ficus elastica</i> | Indian Rubber |
| <i>Ficus exotica</i> | |
| <i>Hemigraphis colorata</i> | Hemigraphis |
| <i>Howea belmoreana</i> | Kentia Palm |
| <i>Neanthe bella</i> | Dwarf Palm |
| <i>Pandanus vietchi</i> | Screwpine |
| <i>Paradisea liliastrum</i> | Paradise Lily |
| <i>Peperomia obtusifolium</i> | Paperomia |
| <i>Philodendron cordatum</i> | Philodendron |
| <i>Sansevieria trifasciata laurenti</i> | Goldenstripe Sansevieria |
| <i>Sansevieria zeylanica</i> | Snakeplant |
| <i>Scindapsus aureus</i> | Devil's Ivy |
| <i>Syngonium podophyllum</i> | Arrowhead |

Vines and Trailing Plants for Totem Poles and Trained Plants

| SCIENTIFIC NAME | COMMON NAME |
|---|--------------------------|
| <i>Anthurium aenulum</i> | Climbing Anthurium |
| <i>Cissus antarctica</i> | Kangaroo Vine |
| <i>Cissus discolor</i> | Begonia Cissus |
| <i>Cissus nizegerensis</i> | Pink Cissus |
| <i>Cissus rhombifolia</i> | Grape Ivy |
| <i>Clerodendron balfouri</i> | Bleedingheart Glorybower |
| <i>Ficus pumila</i> | Creeping Fig |
| <i>Hemigraphis colorata</i> | Hemigraphis |
| <i>Hoya carnosa</i> | Wax Plant |
| <i>Monstera deliciosa</i> | Cutleaf Philodendron |
| <i>Nephtytis afzeli</i> | Nephtytis |
| <i>Pellionia daveauana</i> | Pellionia |
| <i>Pellionia pulchra</i> | Satin Pellionia |
| <i>Philodendrons</i> (all Climbing types) | |
| <i>Piper nigrum</i> | Black Pepper |
| <i>Piper ornatum</i> | Celebes Pepper |
| <i>Scindapsus aureus</i> | Devil's Ivy |
| <i>Scindapsus pictus</i> | Painted Devil's Ivy |
| <i>Stephanotis floribunda</i> | Stephanotis |
| <i>Syngonium podophyllum</i> | Arrowhead |

Plants That Do Well Under Average Home Conditions

| SCIENTIFIC NAME | COMMON NAME |
|-----------------------------------|------------------------|
| <i>Acanthus montanus</i> | Mountain Acanthus |
| <i>Aechmea calyculata</i> | Aechmea |
| <i>Aechmea orlandiana</i> | Aechmea |
| <i>Auracaria excelsa</i> | Norfolk Island Pine |
| <i>Asparagus sprengeri</i> | Sprenger Asparagus |
| <i>Begonia aconitifolia</i> | Begonia |
| <i>Begonia ulmifolia</i> | Elm-leaved Begonia |
| <i>Beleperone guttata</i> | Shrimp Plant |
| <i>Caladium bicolor</i> | Fancy-leaved Caladium |
| <i>Cissus antarctica</i> | Kangaroo Vine |
| <i>Cissus rhombifolia</i> | Grape Vine |
| <i>Cordyline australis</i> | Giant Dracaena |
| <i>Cryptanthus acaulis</i> | Cryptanthus |
| <i>Cyrtomium falcatum</i> | Holly Fern |
| <i>Dieffenbachia bausei</i> | Dumbcane |
| <i>Dieffenbachia picta</i> | Dumbcane |
| <i>Dieffenbachia picta</i> | Dumbcane |
| <i>Rudolph Roehrs</i> | |
| <i>Fatsia japonica</i> | Japanese Fatsia |
| <i>Fatshedera lizei</i> | Botanical Wonder |
| <i>Ficus benghalensis</i> | Banyan Fig |
| <i>Ficus eburnea</i> | Ivory Fig |
| <i>Ficus religiosa</i> | Botree Fig |
| <i>Grevillea robusta</i> | Silk Oak |
| <i>Hedera helix and varieties</i> | English Ivy |
| <i>Peperomia clusaefolia</i> | Rededge Peperomia |
| <i>Peperomia crassifolia</i> | Leatherleaf Peperomia |
| <i>Peperomia obtusifolia</i> | Variegated Peperomia |
| <i>variegated</i> | |
| <i>Peperomia pericata</i> | Coinleaf Peperomia |
| <i>Peperomia sandersi</i> | Watermelon Peperomia |
| <i>Philodendron cordatum</i> | Heartleaf Philodendron |
| <i>Philodendron dubia</i> | |
| <i>Philodendron erubescens</i> | |
| <i>Philodendron giganteum</i> | Giant Philodendron |
| <i>Philodendron imbe</i> | |
| <i>Philodendron mandianum</i> | |
| <i>Philodendron panduriforme</i> | Panda Plant |
| <i>Philodendron scandens</i> | Redleaf Philodendron |
| <i>Philodendron sellowm</i> | |
| <i>Philodendron tripartitum</i> | Trileaf Philodendron |
| <i>Philodendron wendlandi</i> | |
| <i>Pilea involucreta</i> | Artillery Plant |
| <i>Piper nigrum</i> | Black Pepper |
| <i>Piper ornatum</i> | Celebes Pepper |
| <i>Polyscias balfouriana</i> | Balfour Aralia |
| <i>Polyscias filifolia</i> | Fernleaf Aralia |
| <i>Polyscias paniculata</i> | Jagged-leaf Aralia |
| <i>Rhoeo discolor</i> | Three Men in a Boat |
| <i>Sansevieria hahni</i> | Hahn's Sansevieria |
| <i>Sansevieria parva</i> | Parva Sansevieria |
| <i>Sansevieria subspicata</i> | Rededge Sansevieria |
| <i>Saxifraga sarmentosa</i> | Strawberry Begonia |
| <i>Schizmatoglottis picta</i> | Painted Tongue |
| <i>Scolopendrium cristata</i> | Hart's Tongue Fern |
| <i>Spathyphyllum cleavelandi</i> | White Anthurium |
| <i>Syngonium Emerald Gem</i> | Variegated Arrowhead |
| <i>Vanilla planifolia</i> | Vanilla |

Plants That Will Survive With a Minimum Amount of Sunlight for Several Months

| SCIENTIFIC NAME | COMMON NAME |
|-----------------------------|--------------------|
| <i>Aglaonema modestum</i> | Chinese Evergreen |
| <i>Anthurium aenulum</i> | Climbing Anthurium |
| <i>Anthurium digitatum</i> | Climbing Anthurium |
| <i>Bromeliads</i> (all) | |
| <i>Crassula arborescens</i> | Jade Plant |
| <i>Dieffenbachia amoena</i> | Dumbcane |

| SCIENTIFIC NAME | COMMON NAME |
|-------------------------------|------------------------|
| <i>Ficus elastica</i> | India Rubber Plant |
| <i>Ficus exotica</i> | |
| <i>Ficus macrophylla</i> | |
| <i>Howea belmoreana</i> | Kentia Palm |
| <i>Neanthe bella</i> | Dwarf Palm |
| <i>Pandanus utilis</i> | Screwpine |
| <i>Paradisea liliastrum</i> | Paradise Lily |
| <i>Peperomia obtusifolium</i> | Peperomia |
| <i>Philodendron cordatum</i> | Heartleaf Philodendron |
| <i>Rhoeo discolor</i> | Three Men in a Boat |
| <i>Sansevieria species</i> | Sansevieria |
| <i>Schefflera digitata</i> | Schefflera |

Plants That Withstand Dry, Warm Locations

| SCIENTIFIC NAME | COMMON NAME |
|---|---------------------|
| <i>Bromeliads — all species and varieties</i> | |
| <i>Cacti — all species and varieties</i> | |
| <i>Euphorbia mili</i> | Crown of Thorns |
| <i>Pedilanthus tithamaloides</i> | Slipper Flower |
| <i>Peperomia obtusifolia</i> | Peperomia |
| <i>Pereskia aculeata</i> | Leafy Cactus |
| <i>Rhoeo discolor</i> | Three Men in a Boat |
| <i>Sansevieria in variety</i> | |
| <i>Scindapsus aureus</i> | Devil's Ivy |
| <i>Tradescantia (all varieties)</i> | Wandering Jew |

Plants Well Suited for

Large Tubbed Decorative Specimens

| SCIENTIFIC NAME | COMMON NAME |
|----------------------------------|--------------------------|
| <i>Acanthus mollis</i> | Artists Acanthus |
| <i>Acanthus montanus</i> | Mountain Acanthus |
| <i>Alocasia cuprea</i> | Giant Caladium |
| <i>Alsophila australis</i> | Australian Tree Fern |
| <i>Codiaeum variegatum</i> | Croton |
| <i>Dieffenbachia amoena</i> | Spotted Dumbcane |
| <i>Fatsyhedra japonica</i> | Botanical Wonder |
| <i>Fatsia japonica</i> | Japan Fatsia |
| <i>Ficus eburnea</i> | Ivory Fig |
| <i>Ficus elastica variegated</i> | Variiegated India Rubber |
| <i>Ficus pandurata</i> | Fiddleleaf Fig |
| <i>Monstera deliciosa</i> | Cutleaf Philodendron |
| <i>Pandanus vietchi</i> | Screwpine |
| <i>Philodendron dubia</i> | |
| <i>Philodendron elongatum</i> | |
| <i>Philodendron giganteum</i> | |
| <i>Philodendron mandianum</i> | |
| <i>Philodendron panduriforme</i> | |
| <i>Philodendron selloum</i> | |
| <i>Philodendron wendlandi</i> | |
| <i>Polyscias paniculata</i> | Jagged-leaf Aralia |
| <i>Schefflera digitata</i> | Schefflera |
| <i>Strelitzia reginae</i> | Bird of Paradise |

Low Creeping Plants for Ground Covers In Interior Planting Boxes

| SCIENTIFIC NAME | COMMON NAME |
|--------------------------------|-------------------------|
| <i>Episcia cupreata</i> | Episcia |
| <i>Ficus pumila</i> | Creeping Fig |
| <i>Ficus radicans</i> | Climbing Fig |
| <i>Fittonia verschaftelti</i> | Silver Fittonia |
| <i>Silvenerve</i> | |
| <i>Hedera helix Hahns Star</i> | Hahn's Star English Ivy |
| <i>Hemigraphis colorata</i> | Hemigraphis |
| <i>Pellionia daveauana</i> | Pellionia |

| SCIENTIFIC NAME | COMMON NAME |
|-------------------------------------|--------------------------|
| <i>Pellionia pulchra</i> | Pellionia |
| <i>Philodendron cordatum</i> | Heartleaf Philodendron |
| <i>Pilea nummulariaefolia</i> | Creeping Artillery Plant |
| <i>Saxifraga sarmentosa</i> | Strawberry Begonia |
| <i>Scindapsus aureus</i> | Devil's Ivy |
| <i>Tradescantia (all varieties)</i> | Wandering Jew |
| <i>Vinca major variegata</i> | Variiegated Vinca |

Plants Suitable for Hanging Baskets

| SCIENTIFIC NAME | COMMON NAME |
|--|-------------------------------|
| <i>Acanthorhopsalis monocantha</i> | Spiny Rhipsalis |
| <i>Achimene grandiflora</i> | Bigpurple Achimenes |
| <i>Aeschynanthus grandiflorus</i> | Lobcup Basketvine |
| <i>Aeschynanthus grandiflorus 'Black Pagoda'</i> | Black Pagoda Basketvine |
| <i>Aeschynanthus lobbianus</i> | Lobbs Basketvine |
| <i>Aeschynanthus pulcher</i> | Scarlet Basketvine |
| <i>Asarina procumbens</i> | Creeping Gloxinia |
| <i>Asparagus plumosus</i> | Fern Asparagus |
| <i>Asparagus sarmentosus meyeri</i> | Plume Asparagus |
| <i>Asparagus sprengeri</i> | Sprenger Asparagus |
| <i>Asystasia coromandeliana</i> | Lavender Asystasia |
| <i>Begonia gloriosa</i> | Gloriosa Begonia |
| <i>Begonia 'Jean Pernet'</i> | Jean Pernet Begonia |
| <i>Begonia tuberhybrida pendula flore-pleno</i> | Basket Begonia |
| <i>Callisia elegans</i> | Striped Inch Plant |
| <i>Ceropegia woodii</i> | String of Hearts; Rosary Vine |
| <i>Chlorophytum bicheti</i> | St. Bernard's Lily |
| <i>Chlorophytum comosum variegatum</i> | Green Lily |
| <i>Chlorophytum comosum vittatum</i> | Spider Plant |
| <i>Chrysanthemum morifolium Anna</i> | Daisy Cascade |
| <i>Chrysanthemum morifolium Jane Harte</i> | Daisy Cascade |
| <i>Cissus quadrangularis</i> | Winged Treebine |
| <i>Codonanthe macradenia</i> | Central American Bellflower |
| <i>Coleus rehneltianus Trailing Queen</i> | Trailing Coleus |
| <i>Columnnea banksi</i> | Goldfish Vine |
| <i>Columnnea 'Brighter Dawn'</i> | |
| <i>Columnnea Campos Sunset</i> | |
| <i>Columnnea crassifolia</i> | Guatemalan Columnnea |
| <i>Columnnea Eulo</i> | |
| <i>Columnnea gloriosa</i> | Costa Rica Columnnea |
| <i>Columnnea hirta</i> | Hirt Columnnea |
| <i>Columnnea Hybrid Bondera</i> | |
| <i>Columnnea linearis</i> | Narrow-leaved Columnnea |
| <i>Columnnea microphylla</i> | Small-leaved Goldfish Vine |
| <i>Columnnea 'Red Royal'</i> | |
| <i>Columnnea 'Royal Orange'</i> | |
| <i>Columnnea splendens Stavager</i> | Norse Fire Plant |
| <i>Columnnea 'Tangerine Royal'</i> | |
| <i>Columnnea V. C. Covert</i> | |
| <i>Columnnea 'Yellow Dragon'</i> | |
| <i>Commelina communis aurea-striata</i> | Variiegated Widows Tears |
| <i>Cryptocereus anthonyanus</i> | Anthony's Rickrock |
| <i>Cyanotis kewensis</i> | Teddy Bear Plant |
| <i>Cyanotis somaliensis</i> | Pussy Ear |
| <i>Cymbalaria muralis</i> | Kenilworth Ivy |
| <i>Davallia fijeensis plumosa</i> | Rabbit's Foot Fern |
| <i>Dischidia imbricata</i> | Urn Vine |
| <i>Epiphyllum darrahii</i> | Darrah Leafcactus |
| <i>Epiphyllum pumilum</i> | Small-leaf Epiphyllum |
| <i>Epiphyllum 'Paula Knebel'</i> | Knebel Epiphyllum |
| <i>Episcia cupreata 'Amazon'</i> | Amazon Flame Violet |
| <i>Episcia cupreata 'Chocolate Soldier'</i> | Carpent Plant |

| SCIENTIFIC NAME | COMMON NAME | SCIENTIFIC NAME | COMMON NAME |
|---|-------------------------------|---|--------------------------------|
| <i>Episcia cupreata</i> 'Ember Lace' | Ember Lace Episcia | <i>Mammillaria elongata</i> | Lace Mammillaria |
| <i>Episcia cupreata</i> 'Emerald Queen' | Emerald | <i>Mesembryanthemum cordifolium</i> | Heartleaf Mesembryanthemum |
| <i>Episcia cupreata</i> 'Silver Queen' | Silver Queen Episcia | <i>Nephrolepis exaltata bostoniensis</i> | Boston Fern |
| <i>Episcia dianthiflora</i> | Laceflower Vine | <i>Nephrolepis exaltata Roosevelt</i> | Tall Featherfern |
| <i>Episcia lilacina</i> 'Fannie Haage' | Blueflowered Teddy Bear | <i>Pelargonium fragrans loggei</i> 'Apple Cider' | Apple Cider Scented Geranium |
| <i>Episcia</i> 'Moss Agate' | Panama Episcia | <i>Pelargonium fragrans Pine</i> | Pine Scented Geranium |
| <i>Episcia pinkiscia</i> | Pink Episcia | <i>Pellonia daveauana</i> | Trailing Watermelon Vine |
| <i>Episcia</i> 'Red Agate' | Red Agate Episcia | <i>Pellonia pulchra</i> | Satin Pellonia |
| <i>Episcia</i> 'Red Flare' | Red Flare Episcia | <i>Peperomia acuminata</i> | Mexican Peppercake |
| <i>Erythrorhopsis pilocarpa</i> | Bristletufted Twigcactus | <i>Peperomia cubensis</i> | Cuban Peppercake |
| <i>Euphorbia mammillaris</i> | Corncob Plant | <i>Peperomia glabella variegata</i> | Variegated Waxprivet Peperomia |
| <i>Fittonia verschaffelti</i> | Mosaic Plant | | Marble-leaf |
| <i>Fittonia verschaffelti</i> <i>argyoneura</i> | Silvernerve Fittonia | <i>Peristrophe angustifolia aurea-variegata</i> | |
| <i>Fittonia verschaffelti</i> Pearce | Snake Skin Plant | <i>Philodendron micans</i> | Velvet-leaf Vine |
| <i>Fuchsia hybrida</i> Jubilee | Jubilee Fuchsia | <i>Philodendron oxycardium</i> | Heart-leaf Philodendron |
| <i>Fuchsia hybrida</i> Swingtime | Swingtime Fuchsia | <i>Pilea nummularifolia</i> | Creeping Charley |
| <i>Fuchsia triphylla</i> Gartenmeister Bohnstedt | Honeysuckle Fuchsia | <i>Platycerium alcorni</i> | Elkhorn Fern |
| <i>Glecoma hederaceae</i> Variegated | Gill-over-the-Ground | <i>Plectranthus coleoides marginatus</i> | Candle Plant |
| <i>Hatiora salicornioides</i> | Drunkard's Dream | <i>Plectranthus oertendahli</i> | Prostrate Coleus |
| <i>Hedera helix</i> Hahns Variegated | Variegated Hahn's English Ivy | <i>Plectranthus purpuratus</i> | Moth King |
| <i>Hedera helix</i> Ivylace | Ivylace English Ivy | <i>Plectranthus tomentosa</i> | Succulent Coleus |
| <i>Hedera helix</i> Shamrock | Shamrock English Ivy | <i>Polypodium aureum</i> | Hare's Foot Fern |
| <i>Hemigraphis colorata</i> | Red Ivy | <i>Portulacaria afra variegata</i> | Rainbow Bush |
| <i>Hemigraphis exotica</i> | Waffle Plant | <i>Rhipsalis capilliformis</i> | Treehair Rhipsalis |
| <i>Hoya australis</i> | Porcelain Flower | <i>Rhipsalis casutha</i> | Mistletoe Rhipsalis |
| <i>Hoya Bella</i> | Miniature Wax Plant | <i>Rhipsalis houlettiana</i> | Snowdrop Cactus |
| <i>Hoya carnosae compacta</i> | Compact Wax Plant | <i>Rhipsalis paradoxa</i> | China Rhipsalis |
| <i>Hoya carnosae</i> 'Exotica' | Exotic Wax Plant | <i>Rhipsalis pentatera</i> | Fivewing Rhipsalis |
| <i>Hoya carnosae</i> Krinkle Curl | Hindu Rope Plant | <i>Rhipsalis trigona</i> | Triangle Rhipsalis |
| <i>Hoya carnosae</i> Tri-color | Variegated Wax Plant | <i>Ruellia makoyana</i> | Monkey Plant |
| <i>Hoya cinnamomifolia</i> | Cinnamon Wax Plant | <i>Schlumbergera bridgesi</i> | Christmas Cactus |
| <i>Hoya imperialis</i> | Honey Plant | <i>Schlumbergera gaertneri</i> | Easter Cactus |
| <i>Hoya keysi</i> | Pubescent Wax Plant | <i>Schlumbergera truncatus</i> | Christmascactus |
| <i>Hoya longifolia</i> shepherdii | Shepherd's Wax Plant | <i>Scindapsus aureus</i> | Devil's Ivy |
| <i>Hoya motoskei</i> | Spotted Wax Plant | <i>Sedum morganiianum</i> | Burro Tail |
| <i>Hoya obovata</i> (kerri) | Sweetheart Hoya | <i>Senecio herreianus</i> | Green Marblevine |
| <i>Hoya purpurea-fusca</i> | Silver Pink Wax Plant | <i>Senecio jacobseni</i> | Weeping Notonia |
| <i>Hypocyrtia nummularia</i> | Miniature Pouch Flower | <i>Setcreasea purpurea</i> | Purple Heart |
| <i>Hylocereus calcaratus</i> | Nightblooming Cereus | <i>Stapelia gigantea</i> | Giant Toadplant |
| <i>Ipomoea battatas</i> 'Blackie' | Blackleaf Sweet Potato | <i>Stenotaphrum secundatum variegatum</i> | Variegated St. Augustine Grass |
| <i>Kalanchoe gastonis-bonnierii</i> | Life Plant | <i>Streptocarpus saxorum</i> | False African Violet |
| <i>Kalanchoe mangini</i> | Mangin Kalanchoe | <i>Tradescantia albiflora</i> | Giant White Inch Plant |
| <i>Kalanchoe pubescens</i> | Jinglebells Kalanchoe | <i>Tradescantia albo-vittata</i> | |
| <i>Kalanchoe uniflora</i> | Miniature Kalanchoe | <i>Tradescantia sillamontana</i> | White Velvet; White Gosamer |