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Choosing Plants

Basic Plant Needs

The needs of plants are not usually complicated. Most problems arise due to the differences between what plants require from their surroundings and the treatment they receive from their human companions. Requirements vary between different species of plants. However, all plants require light, water, air, appropriate temperatures, and nutrition. These issues are discussed in detail in this booklet. Take all these needs into consideration before choosing a plant.

Plants for the Office Desktops

AfricanViolet	Heart-leaved Philodendron
Arrowhead	Kalanchoe
Begonia	Peperomia
Cactus	Pilea
Chrysanthemum	Podocarpus
Dish Garden Asst.	Polka Dot Plant
Dumb Cane, Dieffenbachia	Potted Bulbs
Echeveria	Pothos
Geranium	Primrose
Gloxinia	Purple Waffle Plant

Floor Plants for the Office

Birds Of Paradise, Strelitzia	Peace lily. White Flag, Spathiphyllum
Bromeliad	Poinsettia
Dieffenbachia	Saddle-leaved Philodendron
Dracaena	Split-leaved Philodendron
Dwarf Schefflera	Snake Plant, Mother-in-law Tongue, Sansev
False Aralia	Weeping Fig, Ficus
Parlor-Palm	Yucca Cane

Hanging Plants for the Office

Algerian Ivy	Pothos
Cactus, Christmas	Spider Plant, Chlorophytum
Grape Ivy	Swedish Ivy
Hoya	Wandering Jew
Ivy Geranium	

Plants for Outdoor/Patio's

Plants that are suitable for outdoor or patio use are sun-loving of bright-light plants. If the plants have been kept indoors all winter they should be introduced to the outdoors gradually, by placing them outside for part of the day. Increase the length of time that they are left outside over a period of a week. Place the plants in a shady spot first and then gradually move them to a sunny spot over the course of the week - this will avoid sun scald on the leaves.
The following are ideal for outdoors and patios:

Bird of Paradise	Jade Plant
Boston Fern	Norfolk Island Pine
Croton	Rubber Plant
Dracaena	Schefflera
Fluffy Ruffles Fern	Sprengeri Fern
Geranium	Weeping Fig
Herbs and Bedding Plants	

Plants for Children

The following plants are very interesting and non-poisonous plants,
Their growth habits, surfaces, colors and their names will spark a child's interest.

Airplane Plant, Umbrella Plant	Polka Dot Plant
Burro's or Donkeys Tail	Prayer Plant
Kalanchoe, Mother of Thousands	Scented Geranium
Lithops, Living Stones	Sensitive Plant
Piggyback Plant	Sweet Potato vines in a clear vase
Pineapple Plant	

When choosing plants be sure to obtain some information about growing conditions to ensure proper growth and living conditions for the plant.

Decorating with Plants

These days, houseplants can make an important contribution to your interior design.

Plants for a Setting that is Modern

Plants can follow fashion and have a certain line that may not always harmonize with a traditional setting. The following plants are suitable for a modern setting.

Caladium	Dizygotheca (False Aralia)	Platycerium
Calathea	Gasteria	Stapelia
Coleus	Kalanchoe	Succulent plants
Croton	Maranta	Vriesia
	Pandanus	

Plants to go on Shelves

Plants with trailing leaves and branches are very useful for decorating shelves or odd corners or furniture. The following plants are particularly suitable for this purpose:

Cerioegua	Small heart shaped leaves.
Columnea	Leaves vary according to species, pretty flowers.
Commelina	Pale blue flowers
Tradescantia	Purple, silver, white and green leaves.

Plants for Settings that are Traditional

The following plants go particularly well with sombre furnishings.

AspleniUM	Ferns (in general)	Palms
Cocos	Fittonia	Peperomia
Davallia	Grevillea	Pilea
Dieffenbachia	Monstera	Schefflera
Fatsia	Nidularium	Selaginella

Plants that Cover Columns or Trellis Work

A wall or trellis covered in greenery can make a dramatic impact on any home. In such cases, a climbing plant will be the most suitable.

Cissus	A vine with green leaves	Rhoicissus	Shiny leaved
Fatshedera	Palmate leaves	Syngonium	Will not climb too high
Philodendron	The ‘scandens’ species	Tetrastigma	Requires lots of light, grows very rapidly, does not like excessive heat

Choosing the Right Location in your Home

The rooms in every home differ in their aspects, their size, how well they are heated, the lighting and so on. These factors will affect your choice of plants. Below is a guideline to help you with your decision.

BEDROOM

Cool to moderately warm, good light. Choose easy to care for plants that can put up with a little neglect.

Cyclamen persicum	Fatshedera lizei	Fuchsia hybrids
Jasminum polyanthum	Maranta leuconeura erythroneura	Pelargonium x hortorum
Saintpaulia spp	Spathiphyllum wallisii	

BATHROOM

Moderate warmth, good diffuse light, periods of high humidity.

Adiantum raddianum	Asplenium nidus	Calathea makoyana
Carex morrowii variegata	Chamaedorea elegans	Epipremnum aureum
Cissus antarctica	Cyperus alternifolius	Chlorophytum comosum vittatum
Ficus pumila	Philodendron scandens	Maranta leuconeura erythroneura
Nephrolepis exanltata	Peperomia scandens	

ENTRANCE HALL

Fairly cool, moderate light. Plants placed here must not be fragile.

Aglaonema commutatum	Aspidistra elatior	Chlorophytum comosum vittatum
Cissus antartica	Clivia miniata	Fatsia japonica
Hedera helix	Tradescantia fluminensis	

KITCHEN

Warm, humid, poor to moderate light. Best to use temporary plants that can be replaced regularly.

Begonia rex	Codiaeum variegatum pictum	Dieffenbachia maculata
Dracaena marginata	Euphorbia pulcherrima	Ficus benjamina
Ficus elastica Robusta	Ficus lyrata	Hydrangea macrophylla
Kalanchoe blossfeldiana	Monstera deliciosa	Philodendron bipinnatifidum
Rhododendron simsii	Yucca elephantipes	

SUNROOM

Heated all year, bright light. Take advantage of the good growing conditions and be adventurous! Grow some of the more exotic specimens.

Abutilon pictum Thompsonii	Aechmea	Aeschynanthus speciosus
Allamanda cathartica	Anthurium scherzerianum	Bougainvillea glabra
Caladium x hortulanum	x Citrofortunella microcarpus	Columnea x banksii
Datura x candida	Gloriosa superba Rothschildiana	Orchids
Srelitzia reginae	Peperomia scandens	Philodendron scandens

Durable and Attractive Plants

Green and blooming plants that are tolerant of low light and humidity levels, moderate temperature fluctuations and infrequent and inconsistent watering and fertilization can be considered plants that are able to withstand abuse. Often, these plants are good selections for the novice who has never grown a foliage plant Although the following plants are tolerant of many conditions, they are attractive and pleasant additions to any decor.

Cast-iron Plant, Aspidistra	Peperomia
Chinese Evergreen, Aglaonema	Pothos, Epipremnum
Heart-leaved Philodendron	Snake plant, Mother-in-law Tongue
Holly fern, Cyrtomium	Cacti/Succulents

Common Poisonous Plants

Some houseplants need to be treated with caution, especially if there are children or pets in the home. A number of species are poisonous if eaten, and others can cause skin irritation or scratches. Children are probably unlikely to eat many houseplants, but brightly colored berries are tempting. Cats, particularly, and some dogs may like to chew a wide variety of houseplants, though they rarely seem to come to any harm.

Unpleasant skin rashes can be experienced after handling a number of plants, such as Primula obconica, by people who have allergies to them. You do not have to be allergic to cacti to suffer from the spines of the cacti (even the silky-seeming hairs of old-man cactus hide vicious barbs). The tips of sharp, spiky leaves such as those of some aloes, which can also bear spines, can also injure people. Be very careful not to place these plants at eye level, and take in to consideration the eye level of children and animals

Common Poisonous Plants

LATIN NAME	COMMON NAME	DANGER
Capsicum annum	Ornamental chilli pepper:	poisonous berries
Datura candida	Angel's trumpet:	All parts are poisonous
Euphorbia pulcherima	Poinsettia:	poisonous sap
Nerium oleander	Oleander:	all parts extremely poisonous
Solanum capsicastrum	False Jerusalem cherry:	poisonous berries

The Best Way to Water Your Plants

For the majority of plants, the soil should be kept just moist throughout the growing season. Apply water until it starts to seep through the drainage holes of the pot, let it stand for 10-30 minutes, then throw away any water that remains in the saucer, as if the water is left there it may cause root rot.
Do not water again until the surface of the soil is dry to the touch, since the surface will dry out first, the soil will still be slightly moist below. Watering will become more frequent during the warmer conditions, as room temperature rises, when light availability increases, and dependent on the type of container the plant is placed in (some containers will dry faster and require more frequent watering ie: clay pots). In winter, watering should be reduced for most plants. They will be growing more slowly, if at all, so less water is required during this season, and roots are more liable to rot in cooler conditions.
Some species need frequent watering and should never be allowed to dry out. Some plants such as cyperuses are adapted to growing with their roots standing in water at all times. Other plants like cacti, are adapted to dry conditions and require watering only sparingly.
The easiest and simplest way to water house plants is to apply water directly to the surface of the soil with a long spouted can. Some plants like the cyclamens do not like water being splashed on the crown, where it can cause rotting. If the plant is difficult to water from above, pour water into the saucer and let the plant stand in it for not more than 30 minute, then pour away any remaining water. If a plant has dried out and the soil is very dry immerse the whole plant into a bucket of water up to the pot rim (water should not flow into the pot) until the soil has been completely moistened. Let the plant drain well and then place it back on its saucer.

Signs of under-watering and over-watering

Any combination of the following symptoms may be a result of when a plant has been under-watered

- The entire plant wilts. Leaves droop and become curled or cupped.
- The edges and tips of leaves turn brown.
- The entire plant drops its leaves.
- The plant looks dull or gray
- The roots are brown and dry

Any combination of the following symptoms may be a result of when a plant has been over-watered

- The whole plant wilts
- The plant fails to grow
- The lower leaves of the plant turn yellow and drop. Upper leaves become brown and get black spots
- Stems and roots begin to rot.

Plants that require high amounts of moisture

Abutilon	Calathea
Aloe	Calla
Aphelandra	Fatsia
Ardisia	Hydrangea

Plants that require low amounts of moisture

Cephalocereus senilis	Dimorphotheca sinuata
Ferocactus latispinus	Jatropha podagrica
Peperomia magnolifolia	Stapelia variegata
Vriesea splendens	

Water Quality

The following are some common water types and their possible affects on plants

Alkaline Water- Many areas refer to this as "hard water". This means that the content of magnesium and calcium is high. Hard water causes salts to accumulate in the soil. Therefore, wilt, burn, and in extreme cases death will occur to the plant.

Rain Water- It is relatively free of heavy concentrations of minerals and will not cause a build-up of soil salts. In many cases rain water is the best water for plants.

Deionized Water- Similar to rainwater, salts and chemicals have been mechanically removed from it. No salt build-up in the soil will occur if de-ionized water is used.

Chlorine - Chlorine is found in most city water. This water is relatively harmless to all plants.

Fluoride - Fluoride is also found in many city water systems, large quantities may cause damage. Allowing water to stand or aerate for 24 to 48 hours before use will prevent any harmful effects.

Method of Feeding Plants

Although plants manufacture their own food from the sunlight, they do need various minerals to start this manufacturing process working. The minerals occur naturally in the soil, and because pot plants have only a limited volume of soil to draw on we generally have to supply some extra nutrients in the form of a fertilizer.

When to feed

Over feeding a plant is potentially more damaging than not feeding it, and an excess of fertilizer can quite easily kill the plant. Plants need feeding only when they are growing actively, and for most this means between spring and fall. In winter, when temperatures and light levels are lower, plants generally need less water and fewer nutrients than in spring, summer, and fall. Plants that bloom in winter should, however, be fed during the flowering period. All soil contains some plant nutrients, and a newly potted plant does not usually need any additional fertilizer for several weeks. Peat-moss-based potting mix contains a much lower level of nutrients than soil-based ones therefore will need feeding sooner than soil based ones.
As a general rule, the faster growing the plant, the more frequently it will need feeding. Every 2-3 weeks is a good rule of thumb for the majority of plants but always check the pack recommendations for the particular fertilizer you are using. Any plant directory will give you a feeding guideline for plants or call your local florist for more information on your plant.

Types of fertilizers

Foods of all types are always taken up by the plant as a solution, but it does not need to be applied in that way. Dry fertilizers will dissolve in the moisture in the soil and so become available to plants. Fertilizers for house plants can be obtained in a very wide variety of forms.

Liquids

These fertilizers may be ready to use but are more usually found as concentrates, which will require dilution before they are actually applied to the soil. Because the nutrients are already dissolved, the fertilizers are fast-acting. Liquids are probably the easiest and the most popular types of fertilizers that are used with houseplants.

Powders

This type of fertilizer generally needs to be dissolved in water before use, (which can prove to be good value for your money). It is sometimes recommended that pinches of dry fertilizer should be applied directly to the soil in the pot, but there is a risk of scorching the roots with an over concentration of fertilizer.

Granules

These granules are usually mixed with the soil when plants are potted, or they are scattered on the surface of the soil around established plants. Because the granular formulation is slow to break down, there is less risk of scorching the roots than with powder fertilizers.

Pills and Sticks

This is another way of making a single fertilizer application last a long time. Powdered fertilizers are compressed into tablet or stick form and are pushed down into the soil in the pot. The stick or tablet dissolves gradually, releasing fertilizer to the plant as it does so. These types are useful for people who are busy and are likely to forget to feed their plants on a regular basis, and for those who find it difficult to do so.

Lighting

Light is essential to the health of plants. Plants require sunlight to photosynthesize (produce food). Varying levels of light control stem length, leaf size, growth direction, and the onset of bloom.
Light intensity strongly influences food production within plant cells. Usually light levels near windows range from 50 to 2000 foot-candle units, which is satisfactory for foliage plants. A foot-candle unit is the amount of light falling on 1 square foot of surface located 1 foot away from one candle. (See measuring foot-candles below)
Light intensities expressed in foot-candle units can be divided into three major categories:

1. Low (50 to 75 foot-candles) - Office interiors where light is subdued, usually more than 8 feet from windows. No direct light.
2. Medium (75 to 100 foot-candles) - Office areas within 4 to 8 feet of windows facing northward.
3. High (over 100 foot-candles) - Office areas within 4 feet of large windows facing southward, eastward, and westward.

Measuring Foot-Candles

A camera with a built-in light meter can be used to measure the foot-candles of light falling on a plant. Set the film-speed dial to ASA 25 and the shutter speed to 1/100 second. Place opaque white paper next to the leaves and point the camera at the plant from a distance no greater than the narrow dimension of the paper.
Adjust the f-stop (Lens opening) until the built-in meter indicates a correct exposure. If this lens opening is F/2, illumination is approximately 40 foot-candles: F/8 is 600 foot-candles: F/11 is 1,200 foot-candles and F/16 is 2,400 foot-candles.

- Time Life Encyclopedia of Gardening

Light duration is the length of time a plant receives light. The total number of foot-candles is determined by intensity, as well as duration. The longer a plant receives light, the more it is able to produce food. When plants are grown in naturally low-light conditions, artificial light should be used to compensate for the lighting conditions that are less than favorable.
Light quality refers to the colour or wavelengths of light a plant is receiving. The light quality of natural sunlight contains all visable wavelengths utilized by plants. It is the best and least expensive source of light.

Low Light Plants

Aglaonema	Aralia	Asparagus Fern
Aspidistra	Aucuba	Cyclamen
Cissus	Ctenanthe	Dieffenbachia
Dracaena	Ferns	Ficus
Hedera	Monstera	Palms
Paphiopedilum	Orchid	Philodendron
Prayer Plant	Purple Heart	Rosary Vine
Screw Pine	Spider plant	Wandering Jew
Yucca		

High Light Plants

Agapapanthus	Agave	Aloe
Araucaria	Asplenium	Aspidistra
Aucuba	Azalea	Cacti
Campanula	Catharanthus	Cissus
Cyclamen	Cystisus	Erica
Fatsia	Ferns	Hedera
Hibiscus	Ipomea	Lithops
Monstera	Myrtle	Neoregelia
Nephrolepis	Passifloral	Peperomia
Philodendron	Pilea	Pineapple
Pothos	Platycerium	Schefflera
Senecio	Simpervivum	Solanum
Soleirolia	Zebrina	

Plants for Southern Window Exposure

Amaryllis	Azalea
Begonia	Bougainvillea
Cactus	Calendula
Fatsia	Pineapple

Plants for Northern Window Exposure

Aglaonema	Aralia	Asparagus Ferns
Aspidistra	Aucuba	Cissus
Ctenanthe	Cyclamen	Diefenbachia
Dracena	Ferns	Ficus
Gardenia	Hedera	Monstera
Palms	Paphiopedlum	Orchids
Philodendron	Prayer Plant	Purple Heart
Rosary Vine	Spider Plant	Yucca
Screw Pine	Wandering Jew	

Plants for Western Window Exposure

Windows facing the west will receive afternoon or evening sun.

Agapanthus	Agave	Azalea
Aloe	Cacti	Catharanthus
Cystisus	Erica	Hibiscus
Ipomea	Lithops	Myrtle
Passiflora	Pineapple	Senecio
Simpervivum	Solanum	

Plants for Eastern Window Exposure

Windows facing the East will receive morning sun.

Araucaria	Aspidistra	Asplenium
Aucuba	Campanula	Cissus
Cyclamen	Fatsia	Ferns
Hedera	Monstera	Neoregelia
Nephrolepis	Peperomia	Philodendron
Pilea	Platycerium	Pothos
Schefflera	Soleirolia	Syngonium
Zebrina		

Humidity

Humidity is the amount of moisture in the atmosphere. Plants generally grow much better in 30 to 50 percent humidity. In hot or cold climates, the humidity may be lower. To measure the humidity level of a plants environment you can use a barometer.

Most climates have a humidity level of 25 to 30 percent therefore if the humidity is too low in a room there are adjustments that can be made using the following techniques

- Mist with a sprayer
- Group several plants together
- Use a waterproof tray with a layer of pebbles in the bottom and place the plants on the pebbles.

Nutrients

The elements required by plants in the largest quantities are nitrogen, phosphorus, and potassium (these are often referred to by their chemical symbols N, P, K).
These are known as the macronutrients. Very small amounts of other minerals, called micronutrients or trace elements, are also needed. Among the most important of these are iron, zinc, magnesium, and ganganese.
The nutrients are required for a range of different processes within the plant. **Nitrogen** is needed for leafy growth, **phosphorus** is needed for healthy root development, and **potassium** for general hardiness and the production of flowers.
Most fertilizers contain a mixture of nutrients in varying proportions, house plant fertilizers are usually formulated either as fertilizers for foliage plants therefore being high in nitrogen, or as fertilizers for flowering plants high in potassium.
The above nutrients are always listed on the label of the fertilizers in the same order - nitrogen, phosphorus and potassium and therefore in an example of 10-10-10 there would be 10 parts nitrogen, 10 parts phosphorus and 10 parts potassium in the fertilizer.
(See Methods of feeding Plants)
The regular feeding of plant nutrients is essential if vigorous, beautiful growth is to be maintained.

Temperature

Temperature directly affects a plants health. Most house plants prefer temperatures that are between 65 to 75 degrees Fahrenheit. There are some exceptions. Plants that tolerate cooler and warmer temperatures are listed below. Most green and blooming plants cannot survive freezing temperatures or temperatures above 100 degrees Fahrenheit.
The following are temperature terms that are applicable to most green and blooming plants

- Hot - Temperatures above 85 degrees Fahrenheit
- Cold - Temperatures below 65 degrees Fahrenheit
- Acclimatization - Gradual movement of a plant from one area to another to allow it to grow accustomed to new temperatures.
- Drafts - Sudden currents of air moving through an area.

Signs of Exposure to Temperature Extremes

Exposure to temperature extremes, such as drafts from hot air registers or furnaces and cold drafts from open doors, windows, or air conditioners, may cause any combination of the following symptoms.

- Wilting and leaf curl
- Leaf drop
- Discoloration
- Stunted plant growth

Air Quality Circulation

The quality of air around plant greatly influences their growth. The air should be as clean as possible and the temperature should be between 65 and 75 degrees Fahrenheit. Air circulation should be fresh, not stale. Cigarettes and other pollutants should be eliminated. Avoid hot or cold drafts. For greatest success with plants a real good rule of thumb is - moderation.

Plants for Cool Locations

Anthurium	Ardisia
Aspidistra	Aucuba
Azalea	Begonia
Caleolaria	Campanula

Plants for Warm Locations

Cactus	Caladium
Caryota Palm	Orchids
Parlor Palm	Philodendron

Ethylene Gas, Ethylene Sensitive Plants

Ethylene is a common example of an air pollutant that seriously affects the well being of all plants. This noxious gas is given off by decaying plant materials, fruits, vegetables and other debris that is not disposed of properly. Some plants, such as bromeliads, can be encouraged to bloom with ethylene gas, but most plants are damaged or even destroyed by the gas.

The following is a list of plants that are sensitive to ethylene gas:

Aloe	Begonia
Campanula	Cineraria
Chrysanthemums	Cyclamen
Impatiens	Pelargonium
Poinsettias	