Jerry Baker
America's Master Gardener®

THE NEW GARDEN LINE SERIES VOL. VIII

HOUSE PLANTS

AMAZING TIPS, TRICKS & TONICS!

- Tea for Two – You and Your House Plants
- Bourbon, Iron & Ammonia for Fabulous Foliage!
- Lower Your Heating Bill with Plants

Plus More

HAPPY, HEALTHY HOUSE PLANTS!

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Introduction

More house plants are bought and buried every year than any other group of plants combined, and that's a crying shame!

House plants are as important to your health and personal environment as the furnace in the basement, food in the cupboard, or water out of the faucet. Without oxygen, you don't need any of the others. Properly selected house plants can make you feel physically and psychologically more comfortable; they can also add to the attractiveness of any room in your house.

This booklet contains all of the information you need to care for or respond to your house plants, their growing conditions and problems. The major factors to consider for their comfort and survival are **heat, humidity, light** and **air circulation.** In the next few pages, I will explain how each of these factors can affect your plants' health, and how you can save time, money and effort using a few common sense tips, tricks and tonics.

If you have a house plant question, why don't you call me **"On the Garden Line"** Saturday mornings from 8:00 a.m.-10:00 a.m. EST on your local Mutual Broadcasting Station. The toll-free number is **1-800-634-3881**.

Also, for more comprehensive information, please refer to one of my other full-size books:

Happy, Healthy House Plants
Plants Are Still Like People
The Impatient Gardener

or pick up a copy of **America's Gardening Newsletter, "On The Garden Line®,"** which is also jam-packed with timely tips, tricks and tonics on lawn, garden and house plant care.

PLACEMENT

Have you ever wondered which room in your house is best for growing house plants? To tell you the truth, it really doesn't matter, as long as you provide the proper comfort zone necessary for the needs of the house plants you select.

HUMIDITY

For years I've been telling you that plants are like people. If the air is too dry, their leaves (skin) dry up, crack, and peel. If neglected long enough, their leaves will bleed. The millions of pores in the leaves dry up and prevent breathing and eating.

Humidity is simply the moisture in the air. People and pets, as well as plants, must have a balance of heat and moisture to remain healthy and comfortable. The natural habitat where house plants grow normally dictates their needs as far as heat, light, temperature, and humidity are concerned. This information can usually be found on the identification tag that comes with newly purchased plants.

FOLIAGE HUMIDITY TONIC

1/2 tsp. instant tea

5 drops liquid dish soap

5 drops ammonia

1 drop antiseptic mouthwash
in 1 qt. warm water

For most popular varieties of foliage and flowering plants, a 60% humidity factor is ideal. To achieve this optimum humidity, use room humidifiers, furnace attached humidifiers, or pans of water on the radiators or heat registers. In addition to these helpers, I suggest that you mist spray your plant's foliage twice a day, in early morning and again in late evening, with my **Foliage Humidity Tonic.**

Apply this tonic with a hand-held mist sprayer, to the top and bottom of foliage, twice daily, as long as you have the heat or air conditioning operating. Improved humidity inside occupied dwellings, whether it's in your home or office, is an absolute must for your and your plants' comfort and health.

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HEATING
& Temperature

There are two factors to consider: whether the delivery is forced air or radiant, and the kind of equipment used to deliver the heat (i.e. gas, electric, oil, wood, coal, or kerosene).

Forced Air with humidity injected (via a humidifier) is by far and away all plants' preference.

Radiant Heat leaves a bit to be desired, but as a rule is cleaner; it also doesn't blow a great deal of dust around.

The fuel source is also a contributing factor to the demise of many plants:

Electric would be most plants' choice combined with air transmission humidity injection, delivered from floor level.

Coal or Wood are the second choices, with all of the electric accessories tacked on.

Gas - with the exception of the danger from unburned fumes to people, pets and plants, gas, when combined with the factors noted in electric, is excellent.

Kerosene - Unless this is your only choice, plants are not fond of kerosene heat because it dispenses a portion of unburned oil onto their foliage. With kerosene, you have to maintain good housekeeping practices (soap and warm water twice a day), and you still have an uphill battle keeping the foliage pores open.

Oil - Same concerns as kerosene, but not quite as bad if you keep your furnace properly maintained and adjusted.

Temperature is a simple and straightforward recommendation for most of the more popular house plants. They prefer between 68° and 72°F during the day, and between 55° and 60°F at night. The secret to temperature success is to be consistent.

You should be able to buy a temperature/humidity gauge at most hardware or housewares departments. This gauge is an absolute must if you want to have happy, healthy plants around your house.

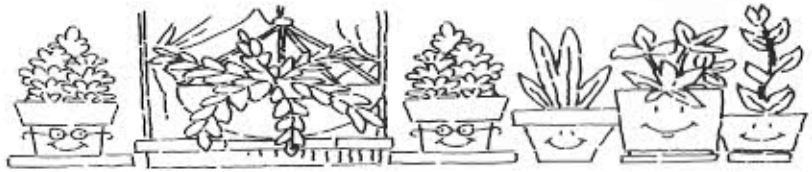
AIR
Circulation

We have all walked into a room that has been closed up for a long period of time, and can probably remember that yucky smell and feel of the air: stagnant, stale, and heavy. It was caused by poor air circulation.

Problem: In winter, this very same thing occurs in most of your homes because of closed windows and doors, the temperature is kept too high, the humidity is too low, and there is a build-up of cooking and smoking oils combined with normal dust. If the air is not circulated and forced down into a level where the cold air returns remove and recycle it, particles in the air attach themselves to your furniture, carpeting, drapes, wall covers, and last but not least, to your house plants. This causes them discomfort because it plugs up the thousands of pores on their leaves that they use to breathe and eat (the two processes called photosynthesis and osmosis). Mist spraying twice daily with the **Foliage Humidity Tonic** will keep the foliage clean and functioning, but to relieve the stress on your plants, pets, and the furniture, you must improve air circulation by bringing in fresh air.

Cure: To begin with, you must have some way for fresh air to enter your home. The simplest way is to crack a window in a non-intrusive room like the basement or attic. Next, a simple, inexpensive oscillating fan set up near the ceiling in a room will be a welcome relief to your plants. The most effective is the rotating ceiling fan which is yet another example of an old wives' tale that is now heralded as a scientific breakthrough.

Bonus Benefit: If you improve the air circulation in your home, your heating bill can go down by 20% to 30%. And in colder areas of the country, your windows won't steam up and freeze.



LIGHTING

If you're going to be successful in growing plants indoors, you have to learn about proper lighting. It's true, plants need food and water to survive, but, my friend, that's just the beginning. Light plays just as big a part in the survival of plants as any other horticultural practice.

Selection: You should only select plants that will be compatible with the lighting (either natural or artificial) that will be available. When you purchase a plant, the odds are that there is a small tag or ticket attached to it that tells you the plant's light needs. **Please** pay attention to what it says.

Placement: Where you set a plant in a room is just as important as the direction of the light entering the room. You must turn the pots a quarter of a turn several times a week to allow all foliage an ample taste of true sunlight.

Supplemental Light: There are several light bulb manufacturers that offer full spectrum lights (often referred to as plant lights). Shop around for the best price. Most of you can use the ordinary shaped 60 watt grow light as an adequate substitute source of sunlight. These bulbs replace your ordinary 60 watt bulbs in ceiling, table or floor light fixtures, with a pleasing effect on both you and your plants. In both home and office, I have designated the degree of light in the **Plant Needs Chart** as low, medium, and bright. You can use a light meter to measure, if you wish, by using this scale: Low = f/5.6, Medium = f/8, Bright = f/11.

FEEDING & Watering

It may surprise you to see that I've lumped both the feeding and watering chores into one operation, but that's the way we professionals do it. House plant food should be added to the water you use every time you water your house plants.

Time: Yes, folks, there is a right time and a wrong time of day to feed plants. Always feed plants before noon, and **never** in the evening. Plants can only ingest and digest solid foods during the day.

Foods & Formulas: For the most part, you can alternate the kinds of plant foods you feed your plants. Plants, like people, get bored with the same diet day in and day out. I suggest you mix up batches of the following tonics, keep them handy, and feed with a different food each time you water.

GENERAL FOLIAGE PLANT FOOD

1/4 tsp. instant tea
1/2 tbsp. ammonia
1/2 tbsp. hydrogen peroxide
1 vitamin tablet with iron
1 capful bourbon
in 1 gal. warm water

Label it!

For flowering house plants, use vodka instead of bourbon.

NATURAL PLANT FOOD

5 drops liquid fish fertilizer
4 tsp. instant tea
1/2 tsp. liquid dish soap
in 1 gal. warm water

Label it!

BALANCED CHEMICAL PLANT FOOD

4 tsp. instant tea
1/10 tsp. 15-30-15 fertilizer
1/2 tsp. ammonia
1/2 tsp. liquid dish soap
in 1 gal. warm water

Label it!

Add 1 cup of the **General Foliage Plant Food** to each gallon of water used to feed your plants. Use the **Natural** and **Balanced Chemical Plant Foods** at full strength.

Plants, like people, can and should eat balanced meals on a regular basis. Most plant owners tend to feed their plants on a hit and miss basis, and in 9 out of 10 cases, it's all water and no food. So feed your plants every time you water!

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PLANT NEEDS

HUMIDITY, TEMPERATURE, LIGHT AND WATER

Plant Name	Humid.	Temp.	Light	Water Req.
African Violet	Med.	60-85°	Med.	Mod. Moist
Aluminum Plant	Med.	60-85°	Med.	Mod. Moist
Arabian Coffee	Low	60-85°	Med.	Mod. Moist
Areca or Butterfly Palm	Low	60-85°	Med.	Very Moist
Arrowhead Nephthytis	Med.	60-85°	Med.	Mod. Moist
Artillery Plant	Med.	60-85°	Med.	Mod. Moist
Asparagus Fern (Plume, Plumosa, Spencer)	Med.	60-85°	Med.	Mod. Moist
Avocado	Med.	60-85°	Med.	Mod. Moist
Baby Doll Dracaena	Med.	60-85°	Med.	Mod. Moist
Baby's Tears, Irish Moss	Med.	60-85°	Med.	Mod. Moist
Balfour Aralia	Low	60-85°	Bright	Mod. Moist
Bella Palm	Low	60-85°	Low	Mod. Moist
Bird's-Nest Fern	Med.	55-70°	Low	Very Moist
Bird's-Nest Sansevieria	Low	55-70°	Med.	Mod. Dry
Bloodleaf Achyranthus	Med.	55-70°	Bright	Mod. Moist
Boston Fern	Med.	55-70°	Low, Med.	Very Moist
Bromeliads	Med.	60-85°	Med.	Mod. Moist
Buddhist Pine	Low	40-65°	Med.	Mod. Moist
Burro's Tail	Low	55-70°	Bright	Mod. Dry
Cactus	Low	60-85°	Bright	Mod. Dry
Caladium	Med.	60-85°	Med.	Mod. Moist
Calamondine	Low	55-70°	Med.	Mod. Moist
Calathea	Med.	60-80°	Med.	Mod. Moist
Candle Plant	Med.	60-80°	Med.	Mod. Moist
Cape Primrose (False African Violet)	Low	40-65°	Med.	Mod. Moist
Century Plant (American Aloe)	Low	55-70°	Bright	Mod. Dry
Chenille Plant	Med.	60-85°	Med.	Mod. Moist
Chinese Evergreen	Med.	60-85°	Low	Mod. Moist
Chinese Holly Grape	Med.	55-70°	Bright	Mod. Moist
Climbing Fig	Med.	55-70°	Med.	Mod. Moist
Cluster Fishtail Palm	Low	60-85°	Med.	Mod. Moist
Coffee Plant (also a Dracaena)	Low	60-85°	Med.	Mod. Moist
Coleus	Low	60-85°	Bright	Mod. Moist
Copperleaf Plant	Low	60-85°	Bright	Mod. Moist
Coral Berry	Med.	55-80°	Med.	Mod. Moist
Corn Plant	Med.	60-85°	Med.	Mod. Moist
Creeping Fig	Med.	60-85°	Med.	Mod. Moist
Croton	High	60-85°	Bright	Mod. Moist
Crown of Thorns	Low	60-80°	Bright	Mod. Dry
Date Palm	Low	60-80°	Med.	Very Moist
Dracaena (Gold Dust, Janet Craig, Warnecki)	Low	60-80°	Med.	Mod. Moist
Dragon Tree (also a Dracaena)	Med.	60-85°	Med.	Mod. Moist
Dumb Cane (Giant, Spotted, Golden)	Med.	60-85°	Med.	Mod. Dry
Elephant's-Foot Tree (Ponytail)	Low	55-70°	Bright	Mod. Moist
Emerald Ripple Peperomia	Med.	60-85°	Med.	Mod. Dry
English Ivy	Med.	40-65°	Bright	Mod. Moist
Euonymus	Med.	40-65°	Med.	Mod. Moist
False Agave	Med.	55-70°	Med.	Mod. Moist
False Aralia (Mock Cannabis)	Med.	55-70°	Med.	Mod. Moist
Fan Palm	Low	55-70°	Med.	Very Moist
Fiddle-Leaf Fig	Med.	60-85°	Med.	Mod. Moist
Fiddle-Leaf Philodendron (Panduraforme)	Med.	60-85°	Med.	Mod. Moist
Fishtail Palm	Med.	60-85°	Med.	Very Moist
Flame-of-the-Woods	Med.	60-85°	Med.	Very Moist
Flame Violet	Med.	60-85°	Med.	Mod. Moist

PLANT NEEDS

HUMIDITY, TEMPERATURE, LIGHT AND WATER

Plant Name	Humid.	Temp.	Light	Water Req.
Fluffy Ruffle Fern	Med.	55-70°	Med.	Mod. Moist
Fun Palm	Med.	55-70°	Med.	Mod. Moist
Gardenia	Med.	60-85°	Bright	Mod. Moist
Geranium	Med.	60-85°	Bright	Mod. Dry
German Ivy (Parlor Ivy)	Med.	60-85°	Med.	Mod. Moist
Giant Dumb Cane	Med.	60-85°	Med.	Mod. Moist
Giant White Inch Plant	Med.	55-70°	Med.	Mod. Moist
Gold Dust Dracaena	Med.	60-85°	Med.	Mod. Moist
Gold Dust Ivy	Low	40-65°	Bright	Mod. Moist
Gold Dust Tree	Med.	60-85°	Med.	Mod. Dry
Gold Vein Bloodleaf	Med.	60-85°	Bright	Mod. Moist
Golden Bird's-Nest Sansevieria	Low	60-85°	Med.	Mod. Dry
Golden Dieffenbachia	Med.	60-85°	Med.	Mod. Dry
Golden Pothos (Devil's Ivy, Hunter's Robe)	Med.	60-85°	Med.	Mod. Moist
Golden Trumpet	Med.	60-85°	Bright	Mod. Moist
Grape Ivy	Med.	60-85°	Med.	Mod. Moist
Hagenburger's Ivy	Med.	60-85°	Bright	Mod. Moist
Hahn's Self-Branching Ivy	Low	40-65°	Bright	Mod. Moist
Hastatum Philodendron	Med.	60-85°	Med.	Mod. Moist
Hawaiian Ti	Med.	60-85°	Med.	Very Moist
Heart-Leaf Philodendron (Oxycardium)	Med.	60-85°	Med.	Mod. Moist
Hibiscus	Med.	60-85°	Bright	Mod. Moist
Holly Fern	Med.	60-85°	Low	Mod. Moist
Iron-Cross Begonia	Med.	60-85°	Med.	Mod. Moist
Jade Plant	Low	55-70°	Bright	Mod. Dry
Janet Craig Dracaena	Med.	60-85°	Bright	Mod. Dry
Japanese Aralia	Med.	40-65°	Med.	Mod. Moist
Japanese Littleleaf Boxwood	Med.	40-65°	Bright	Mod. Moist
Joseph's Coat	Med.	55-70°	Bright	Mod. Moist
Jungle Geranium	Med.	55-70°	Bright	Mod. Moist
Kangaroo Ivy	Med.	60-85°	Med.	Mod. Moist
Lantana	Med.	60-85°	Bright	Mod. Dry
Lipstick Plant	Med.	60-85°	Med.	Mod. Moist
Maidenhair Fern	Med.	60-85°	Low	Very Moist
Maranta	Med.	60-85°	Med.	Mod. Moist
Marble Queen Pothos	Med.	60-85°	Med.	Mod. Moist
Medicine Plant (True Aloe)	Low	55-70°	Bright	Mod. Dry
Ming Aralia	Med.	60-85°	Bright	Mod. Moist
Moon Valley Pilea	Med.	60-85°	Med.	Mod. Moist
Moses-in-the-Bulrushes	Low	55-70°	Med.	Mod. Moist
Moses-on-a-Raft	Low	60-85°	Med.	Mod. Moist
Narrow-Leaved Pleomele	Low	60-85°	Med.	Mod. Moist
Natal Plum	Med.	55-70°	Bright	Mod. Moist
Needlepoint Ivy	Low	40-65°	Bright	Mod. Moist
Norfolk Island Pine	Med.	55-70°	Med.	Mod. Moist
Orange Tree (also Lemon, Lime & Grapefruit)	Med.	60-85°	Bright	Mod. Dry
Orchids	Med.	60-85°	Bright	Mod. Moist
Parlor Ivy	Med.	60-85°	Bright	Mod. Moist
Peace Lily	Med.	60-85°	Low	Very Moist
Piggyback Plant	Med.	60-85°	Med.	Mod. Moist
Pygmy Date Palm	Low	60-85°	Med.	Mod. Moist
Pineapple	High	60-85°	Med.	Mod. Moist
Plumosa Fern	Med.	55-70°	Med.	Mod. Moist
Polka-Dot Plant	Med.	60-85°	Med.	Mod. Moist
Polynesia	Med.	60-85°	Med.	Mod. Moist

PLANT NEEDS

HUMIDITY, TEMPERATURE, LIGHT AND WATER

Plant Name	Humid.	Temp.	Light	Water Req.
Polypody Fern	Med.	55-70°	Med.	Mod. Moist
Prayer Plant (Maranta)	Med.	60-85°	Med.	Mod. Moist
Purple Heart	Med.	60-80°	Bright	Mod. Dry
Purple Waffle Plant	Med.	60-85°	Low	Mod. Moist
Rex Begonia	Med.	60-85°	Med.	Mod. Moist
Ribbon Plant (a Dracaena)	Med.	60-85°	Med.	Mod. Moist
Rockford Holly Fern	Med.	55-70°	Med.	Mod. Moist
Rosary Vine	Med.	55-70°	Med.	Mod. Dry
Rose of Jericho	Med.	40-65°	Low	Mod. Moist
Rubber Plant	Med.	60-85°	Med.	Mod. Moist
Schefflera (Umbrella Tree)	Med.	60-85°	Bright	Mod. Dry
Screw Pine	Med.	60-85°	Med.	Mod. Dry
Sensitive Plant	Med.	60-85°	Med.	Mod. Moist
Shrimp Plant	Med.	55-70°	Bright	Mod. Dry
Silverlace or Table Fern	Med.	55-70°	Bright	Mod. Moist
Silver Tree Panamiga	Med.	60-85°	Med.	Mod. Moist
Snake Plant (Mother-in-Laws Tongue, Barber Shop Begonia) (All Sansevieri)	Low	60-85°	Med.	Mod. Dry
Spider Aralia	Med.	60-85°	Med.	Mod. Dry
Spider Plant	Med.	60-85°	Med.	Mod. Moist
Split-Leaf Philodendron	Med.	60-85°	Med.	Mod. Moist
Spotted Dumb Cane	Med.	60-85°	Med.	Mod. Moist
Sprenger Asparagus	Med.	55-70°	Med.	Mod. Moist
Staghorn Fern	Med.	60-80°	Med.	Mod. Moist
Strawberry Begonia	Med.	40-65°	Bright	Mod. Dry
String-of-Hearts	Med.	55-70°	Bright	Mod. Dry
Striped Inch Plant	Med.	55-70°	Med.	Mod. Moist
Succulents (Christmas Cactus, Kalanchoe)	Low	60-85°	Med.	Mod. Dry
Swedish Ivy	Med.	60-80°	Med.	Mod. Moist
Sweetheart Ivy	Med.	40-65°	Bright	Mod. Moist
Tahitian Bridal Veil	Med.	55-70°	Med.	Mod. Dry
Trailing Velvet Plant	Med.	60-85°	Med.	Mod. Dry
Tree Ivy (Aralia Ivy)	Med.	40-65°	Bright	Mod. Moist
Tree Philodendron (Selloum)	Med.	60-85°	Med.	Mod. Moist
Tricolor Dragon Tree	Med.	60-85°	Med.	Mod. Moist
Umbrella Plant	Med.	60-85°	Med.	Very Moist
Variegated Balfour Aralia	Med.	60-85°	Bright	Mod. Moist
Variegated Mock Orange	Med.	60-85°	Med.	Mod. Dry
Variegated Peperomia	Med.	60-85°	Med.	Mod. Dry
Variegated Rubber Tree	Med.	60-85°	Med.	Mod. Dry
Variegated Swedish Ivy	Med.	60-85°	Med.	Mod. Moist
Variegated Wandering Jew	Med.	55-70°	Med.	Mod. Dry
Variegated Wax Ivy	Med.	60-80°	Med.	Mod. Moist
Velvet Leaf Kalanchoe	Med.	55-70°	Bright	Mod. Dry
Velvet Plant	Med.	60-85°	Bright	Mod. Moist
Victoria Table Fern	Med.	60-80°	Bright	Mod. Moist
Wandering Jew	Med.	60-80°	Med.	Mod. Moist
Warnecki Dracaena	Med.	60-85°	Med.	Mod. Moist
Watermelon Peperomia	Med.	60-85°	Med.	Mod. Dry
Wax Plant	Med.	55-70°	Med.	Mod. Dry
Weeping Fig	Med.	60-85°	Med.	Mod. Moist
White-Nerved Fittonia	Med.	60-85°	Med.	Mod. Moist
White Velvet Tradescantia	Med.	55-70°	Med.	Mod. Dry
Yucca (False Agave)	Med.	55-70°	Bright	Mod. Dry
Zebra Plant	Low	60-85°	Med.	Mod. Moist

INSECT Controls

You can not have live house plants and earth products together in a container, and not have a bug or blotch. So be prepared and take these little troubles in stride.

INSECT CONTROLS:

If you regularly use the **Foliage Humidity Tonic**, and at the first sign of foliage insects, add liquid Sevin at the recommended rate, you should put your insect problems behind you. If you need to use any medications, use the following chemical controls carefully and only as directed.

To Control	Which Attack	Use
Ants	Ants carry aphids to most green plants	Dursban
Aphids	Aphids suck the sap from plants and carry virus diseases; they like bud tips and undersides of leaves, leaving them sticky.	Dursban, Malathion, Nicotine Sulphate, Pyrethrum, Rotenone.
Beetles	Most plants (adults eat leaves, larvae eat roots).	Carbaryl (Sevin), Dursban, Malathion.
Borers	Most hard-stemmed house plants like Schefflera and Dumb Cane.	Carbaryl, Lindane
Capsid bugs	Chrysanthemums, Fuchsias, and other composite flowers.	BHC, Malathion
Caterpillars	The leaves of most plants.	Carbaryl, Dursban, Malathion, Oil Spray, Pyrethrum.
Centipedes	Spring bulbs, tuberous plants.	Dursban and snuff
Cutworms	They chew stems at the surface of seedlings and other young plants.	Carbaryl, Dursban
Cyclamen mites	New growth of Cyclamen plants; they are nearly invisible.	Sodium Selenate to soil; Dicofol; destroy badly infected plants.
Earwigs	Chrysanthemums and other plants.	Dursban.

INSECT CONTROLS

To Control	Which Attack	Use
Eelworms	Chrysanthemums, tomatoes, cucumbers, bulbs, and leafy plants. Also African violets, begonias.	Sterilize soil of greenhouse plants; get rid of affected bulbs.
Foliar nematodes	They leave ugly brown spots on leaves of plants as evidence of their presence.	Don't water foliage when spots appear; get rid of infected leaves and plants.
Leafhoppers	Suck the underside of leaves of chrysanthemums, geraniums, dahlias, and other softwood varieties. They also carry virus diseases.	Carbaryl, Dursban, Malathion, Methoxychlor, Nicotine Sulphate
Leaf miner	These maggots make "mines" or tunnels in leaves of chrysanthemum, cineraria, and other plants.	Dursban, Malathion.
Mealybugs	These suck plant juices and leave excretions that attract fungus disease.	For ferns, use warm soapy water. Other plants, use Malathion, Dursban.
Mites (red spider mites)	These attack underside of leaves of azaleas, carnations, and other woody plants. Mottled spots indicate their presence.	Add humidity; Dursban, Malathion, Oil Spray.
Scale insects	Evergreens, shrubs. They are sapsuckers about 1/8" long.	Dormant spray with Carbaryl, Dursban, Malathion, Oil Spray.
Springtails	Seedlings of most plants, bulbs and orchids.	Dursban directly to soil.
Thrips	Feed on inside buds and scar. They leave silvery coating on foliage.	Carbaryl, Dursban, Malathion, Rotenone.
Whitefly	Sucking insects that attack tomatoes. Foliage turns yellow or silvery. They secrete honey dew that attracts mold.	Malathion, Rotenone
Woodlice	Seedlings and young plants at night.	Dursban directly to soil.

DISEASE Controls

Use the following chemical controls carefully and only as directed.

To Control	Which Attack	Use
Black spot (leaf spot)	Leaves and all plant surfaces. Small black spots turn to blotches on chrysanthemums, delphiniums and others. Plants die if not attended to immediately.	Benlate, Captan, Ferban, Maneg, Folpet. Cover all plant surfaces.
Botrytis Blight (gray mold)	Leaves, flowers, and bulbs. Small colored blotches on chrysanthemums, daisies, peonies, tuberous begonias, tulips, etc.	Phanltan Zineb, Thiram
Powdery mildew	Upper lower surface of leaves. A mild disease, but unsightly.	Acti-Dione PM, Sulphur
Damping off	Rotting of young seedlings at the point of soil contact, causing them to fall over and die.	Sterilized soil, Captan, Zineb
Rust	Undersides of leaves. On carnations and other plants, especially snapdragons.	Maneb, Zineb. Don't water foliage. Destroy badly infected plants.
Rot (stem or root rot)	On stems and roots at soil level or just below soil surface.	No effective control . Destroy infected plants.
Mosaic	Most late spring and summer bulbs. This virus disease stunts the plants and disfigures leaves and flowers. Often carried by aphids.	Destroy infected plants. Destroy aphids as described above.
Other Viruses	Microorganisms are systemic diseases that stunt growth, disfigure flowers and foliage. Eventually they kill your plants.	No known cures. Destroy insect carriers as described above.

POTTING
& Repotting

This chore is generally put off until the last minute, or as a last ditch attempt to save a dying plant's life! Don't wait; potting and repotting are as easy as .....well:

1. Only repot when a plant stops growing, the pot breaks or the roots are choking your piano's legs to death, and then only move it up one pot size larger.

2. Use only clay pots, which I call "work shoes".

3. Plastic, glass, metal, or wood are for decoration only, so set the work shoes into one of these if you don't like the way clay pots look.

4. Plant or transplant in the evening and at the light of the moon (first quarter).

5. A peat pot liner makes the next move easier.

6. As a general rule, use a mixture of half potting soil, half professional mix, 1/4 cup Epsom salts, 1/4 cup bone meal and 1 tsp. instant tea as an all-around, all-purpose planting or repotting mix.

SPECIAL
House Plants

I want to give you an overview of the most popular house plants that are given as gifts, often to people who do not have a large collection or interest in house plants. Remember, with just a little TLC, these gift plants will give you beauty and comfort for many years to come.

AFRICAN VIOLETS

Care: Knowing the basic rules for growing African violets is a little like knowing good manners—you must know what's what before you can depart from them.

Use 3 inch pots to set the new plants in—either the common red clay, unglazed flower pots or the glazed containers that are offered with or without a wick for continuous feeding. If you use unglazed pots, provide protection on the rim so the leaf stems do not come in direct contact with the pots since this causes stem rot. Coat the rim with paraffin wax or cover with metal foil. If you use glazed pots, be sure that they have drainage holes in the bottom.

African violets like loose, fertile soil; 1 part sharp medium-fine sand, 1 tbsp. bonemeal per quart, 2 parts garden loam, 2 parts leafmold or peat moss and 2 parts well-rotted manure, if available. Sift the soil mixture through a 1/4" screen (a piece of hardware cloth will work fine) to remove any coarse particles.

Use broken pot shards over the drainage holes in the bottom of the pots to keep them open. This is one of the most important keys to success with African violets.

Place the plants in the pots so that the crowns are just above the soil surface. Press the soil about the roots, then thump the pots on the table to further settle the soil. Stand the pots in water until the soil soaks in all it will hold, then set them out to drain. To grow African violets successfully, follow these simple precautions.

SPECIAL HOUSE PLANTS

GROWING TIPS:

1. Do not keep the plants in direct sunlight, especially in summer. Diffused light (from an east or north window) is best, although insufficient light means fewer flowers.
2. Water should be room temperature, and do not get any water on the foliage.
3. Do not allow the soil to become soggy; good drainage is very important. Check occasionally to make sure that the drainage hole is not plugged.
4. For healthy foliage and numerous flowers, maintain a regular feeding program.
5. Watch the plants for any sign of insects. For mealy bugs, which are small, cottony white spots, touch them with a small swab dipped in alcohol. Most other insects can be controlled by dusting with a complete insecticide, especially in the heart of the plants.

Two items that are hotly disputed are what the proper temperature and humidity should be and whether or not the foliage should be cleaned with water or a soft dry brush. After the plants become adjusted to your home, they can stand any temperature between 60° and 75°F, provided they are not subjected to sudden changes or drafts, or chilled at night.

New flower buds form in the axil of each new leaf, so the more leaves a plant has, the more flowers it produces. This is one of the best reasons for growing African violets under fluorescent lights. These lights keep the plants growing continuously, putting out new leaves and consequently, more flowers. Fluorescent lighting also eliminates the tedious daily task of turning plants to keep them symmetrical.

Propagation of African violets sometimes happens by accident. A clump gets too large and you pull off a crown or two. You just can't bear to throw the pretty thing away, so you plant it in a small pot, pat the soil down, water it and voila!—you have another plant! This is nearly always successful, and is probably the easiest method to propagate African violets. And you have done what you should do—pot the new plant quickly without letting the roots dry out which is the extra plus factor that new plants need.

If you have a choice of leaves to remove, select a medium-sized leaf that is mature, but not old. Remove it from the parent plant with an inch-long leaf stem. Place it in a glass of water suspended through a slit in a bit of wax paper, cardboard, or aluminum foil. Place the glass where it will receive light but not sunshine, and you can confidently expect roots to form in about 2 to 4 weeks. The rooted leaf stem should be planted when the new growth is about an inch long. Or you can plant your leaf in a mixture of half sand and vermiculite, or in ordinary gravel. In either case, keep the mixture quite moist.

African violets may be injured by **crown rot**, a disease that injures the plant at soil level, and causes the plant to wilt. This can be eliminated by careful watering and good drainage.

Don't plant too deeply. A plant that has rotted off may sometimes be saved by cutting off the diseased portion and a few of the older leaves, and then re-rooting them in sand or water. When new roots have developed, pot the plant in sterilized soil.

Ring spot, characterized by yellowish or white rings or irregular spots noticeable on the upper surface of the leaf, is caused by too much strong light or by applying water that is either much warmer or cooler than the plant.

SPECIAL HOUSE PLANTS

AMARYLLISES

Amaryllises can grow to be 3 feet tall. The handsome flowers—large and funnel-shaped—are rose, blush, or white, and are borne on stems 18 inches high.

Plant the bulbs in May with the upper third of the bulbs exposed. Blooms will be bigger and better if the bulbs are pot-bound. Amaryllises do not like to be disturbed once they have become established, so repot only when absolutely necessary.

From the time the bulbs are potted until growth begins, water very little. Place the pots in dim light and leave until new growth appears. When new growth starts, increase the moisture and bring the pots to full light.

When the large bud appears, give weekly feedings of manure tea or liquid fertilizer until the buds start to show color.

After blooming, cut off the flower stalk and gradually reduce watering until the foliage dries off. Then rest the bulbs in their pots turned on their sides.

The next year, hose some of the soil out of the top of the pot, and replace it with fresh soil. When new growth appears, move the plants into light and increase watering. You should have more and larger blossoms than the year before.

AZALEAS

Azaleas need bright light, but not strong sun. The soil should be evenly moist, and the temperature kept between 55° and 65°F. This may mean putting them on the floor or in a cooler room. You'll have better luck in keeping your azaleas healthy if you remove the foil or other covering from the pots and submerging them in a pan of water every other day for 15 to 20 minutes, then allow them to drain. Mist spray the foliage with water 3 or 4 times a week.

To get azaleas to re-bloom indoors is a bit tricky. They need 6 weeks of cool treatment at around 40°F. Give the plants a chance to replenish their strength after they have finished blooming. In the summer, set the pots in the ground in a semi-shaded area, protected from hot, drying winds. Water them regularly, and feed them with special fertilizer for acid-loving plants. Bring them inside in early fall and place them in a cool, light place, keeping the soil moist, but not wet. When buds show activity, provide more sun, water and food.

BEGONIAS

Don't let the delicate beauty of these plants put you off. They are not nearly as complicated as many of us think.

Tuberous Begonias (the fancy, frilly ones) may be planted any time from February until spring. They are ready to plant when the buds start to swell at the crown, and should be planted so the pink swellings remain above ground.

The soil should be plentifully enriched with leafmold, compost, decayed manure, humus or peat moss. It should be coarse and well-drained, but moist. Good drainage is a must, so be sure that the bottom of the pots contain plenty of broken crockery.

Water sparingly until growth starts, increasing the amount of moisture as the plants develop. Begonias grow best if kept in temperatures between 65° and 70°F, in partial shade.

In late fall, after the tops die down, allow the plants to dry, then store them in a warm place with the temperature between 50° to 55°F.

Fibrous-Rooted Begonias are easier to grow than their larger flowering sisters. Their blossoms are not as big, but they more than make up for this in the abundance of flowers.

SPECIAL HOUSE PLANTS

These begonias are often called **wax begonias,** and they may be used either for pot culture or as bedding plants. Most of these varieties grow to an average height of about 12", though the angel-wing begonia sometimes grows 12 feet tall. The angel-wing begonia has evergreen leaves and great bundles of cerise-colored flowers. It is a climber and is very pretty grown on wires fixed to the greenhouse roof. It can be kept within bounds by taking cuttings from it each spring. The leaves resemble wings.

Smaller wax begonias also have evergreen leaves. They are roundish and the plants bear clusters of pink, white, red, or dark crimson flowers. Though they bloom almost continuously, the greatest profusion of blossoms are produced during the summer.

Rex Begonias are practical for people who work or live in apartments. These beauties have short rhizomes or root-stocks, which give rise to long-stalked, ovate, wrinkled leaves averaging about 6 inches in diameter.

With these boy-types, the leafstalks, veins, and, in some varieties, the upper surfaces of the leaves, are covered with fine hairs. The beautifully marked leaves may be silver and green, light and dark green, red and green, purple and green, and on and on. One of the most striking, begonia Massoniana (Iron Cross), has green leaves marked with radiating bands of chocolate brown.

Rex needs warmth (a minimum temperature of 50° to 55°F), and moisture. His soil requirements are much the same as other types—the best potting compost consists of loam and leaf mold in equal parts along with coarse sand and rotted manure. Add some charcoal to keep the mixture "sweet." Water well in summer, but during the winter months, only when the soil becomes dry. Propagation is easily accomplished by division or by leaf cuttings.

BROMELIADS

Bromeliads are any plants that belong to the pineapple family. They make ideal house plants. If you have ever cut off the top of a fresh pineapple and inserted it in a pot where it obligingly grew, then you have grown a bromeliad. But this plant, however interesting it may have been, is not nearly as exciting as the more colorful varieties.

Bromeliads thrive on warmth, and room temperatures can never get too hot for them. They have developed water-retaining powers peculiarly adapted to dry household conditions. In their native habitat, they grow on tree branches and are accustomed to very little light, which makes them ideal for darker rooms.

Billbergia nutans is an evergreen plant from Brazil with long, rigid, pineapple-like leaves that rise, in the form of a rosette, straight from the roots. The flowers are spikes, or panicles, and appear in the centers of the rosettes in winter. The temperature for **Bilbergias** should never be allowed to drop below 55°F. Potting is done in spring in a compost of peat, loam, sand and leafmold with a generous portion of chopped charcoal. Pots should be half filled with drainage material. They need a fairly moist atmosphere with abundant water at the roots in summer, but less during the winter.

Most bromeliads are air plants, but they seem to thrive very well when their roots are placed in a coarse planter mix. Also, most plants have pointed leaves that rise in a whorl. This center forms a natural vase and must be kept full of water at all times because the base of the leaves is the water-absorbing area. Save rainwater, refrigerator drippings, or use bottled water if you live where the water is hard or heavily chlorinated.

BULBS

My Grandma Putt always said that Mother Nature designed bulbs for the impatient gardener who just couldn't wait for spring. Forcing bulbs to bloom indoors can be just as much fun as any other form of gardening, and when approached in the right way, it need not be messy or difficult.

SPECIAL HOUSE PLANTS

Spring-flowering bulbs like paperwhites, crocuses, grape hyacinths, scillas, chionodoxas, daffodils, hyacinths, snowdrops, and the single early and early double tulips, can be forced to flower.

The best containers for doing this are called **"bulb pans."** They are clay pots that are wide at the top and shallower than standard pots. There are all sorts of varieties, depending on what you plant to grow. Azalea pots, for instance, are deeper than bulb pans, but not as deep as standard pots.

The mechanical condition of the soil is much more important than its fertility because bulbs contain enough stored food to bring forth a good flower. A good general potting mixture consists of equal parts of top soil, humus, and sand. Add a little plant food or well-decayed manure if you like. In a large container, mix all of the ingredients thoroughly so they are well pulverized.

When choosing bulbs, select only those that are marked suitable for indoor forcing. 10 days to 3 weeks is the longest you can reasonably expect your bulbs to stay in flower. Hardy bulbs bloom naturally outside during the cool days of late winter or early spring. Forcing them indoors does not mean using a high temperature.

Provide drainage in the bottom of the pot with pieces of broken crock. Fill the pot about half full and place the bulbs on top of the soil. Plant several to a container, so they almost touch each other. Fill in around the bulbs, but leave the tips uncovered. The tips should be seen just above the surface of the soil, and the soil should be an inch below the rim of the pot to allow for watering.

After potting bulbs, mark their color and variety with labeling sticks. Give them a thorough watering by standing the pots in a pan of water, and letting the water seep upward until the soil surface is completely moistened. Then set them where they can drain.

After the bulbs are potted, they are ready for a period of cold and darkness which enables them to develop a strong root system before their top growth starts. Most bulbs need a minimum of 10 to 12 weeks of cold and darkness before you can safely bring them in.

Where can you put the bulbs in the meantime? Most home gardeners dig a trench 12" to 15" deep, 18" wide, and long enough to hold the number of pots they plan to bring in it. The trench should be dug in a well-drained part of the garden where there is no danger of water collecting in the bottom. Place a 4 inch layer of cinders or coarse gravel in the bottom, to help drainage.

Set the pots in the trench with the rims touching. Pack damp compost or peat moss around the pots and 3 inches deep over them. Just before freezing, place a heavy layer of hay or straw over the peat moss. Weigh this down with boards or evergreen branches. This prevents the pots from being frozen too solidly in the peat moss, making removal difficult. After 10 or 12 weeks, examine some of the pots. If you see roots growing out of the drainage hole, it's time to take a few of them inside.

Put them in a cool, light, but not sunny place—a cellar or a north room. Check the moisture of the pot soil; it must never be allowed to dry out completely. To water, set the pots in a partially filled basin and let the soil soak up the water from the bottom.

Once the leaf growth is well up, place the pots in a moderately warm, sunny window. The nighttime temperature should never be above 60°F.

When they are in the flower and bud stage, all bulbs need daily watering. The cooler the room, the longer bulb flowers will last, so remove them from direct sunlight once the flowers start to open. At night, place the pots in a room where the temperature ranges between 40° and 50°F to help prolong the life of the flowers.

After blooming, remove the faded flowers, but do not reduce watering. Wait until the foliage shows signs of maturing. Store the pots temporarily, and as soon as the ground can be dug, put the hardy bulbs out in the garden to grow for a year, giving them a chance to recover their vitality.

When the foliage on the half-hardy and tender bulbs dies, they should be rested completely. Allow the bulbs and corms to remain in their pots, or remove and dry them completely. If you leave the bulbs in the pots, they should have a small amount of moisture, best provided by setting the pots in a cool, damp place.

CACTI

Cacti have just about as many admirers as other house plants. If you believe a cactus is all thorns and prickles, then you're in for a big surprise because a cactus in bloom cannot be beat, even by an orchid.

For indoor cultivation, cacti require a minimum temperature of 40°F, with 50° to 55°F being even better. With few exceptions, they should be exposed to every bit of available sunlight (or grown under fluorescent light) throughout the year.

Cacti are easy to grow, but for those in "captivity," the trick is to persuade them to bloom. Good drainage is essential. Fill the pot one quarter full of flowerpot chips or pea-size gravel before putting in any soil mix. Contrary to popular belief, cacti do not grow in pure sand. They need a nutritional soil suited to their particular needs. A mix composed of equal parts of garden loam, leaf mold, and sand is satisfactory for most species.

For desert-type cacti, add more sand and some gravel; for jungle species, use shredded fir bark or osmunda fiber with one part garden loam. All ingredients should be thoroughly mixed and the texture should be loose and fibrous so it will drain easily, yet provide moisture for the plant roots.

Cacti should be planted in pots that seem too small for them for good reason—cacti have comparatively few roots and will not bloom in larger pots.

Wear good heavy gloves when you are working with cacti, or fold a newspaper and circle the plant with the paper. The spines are their only protection, and believe me, they hurt. So be careful.

CAMELLIAS

Camellias require almost the same care as azaleas. They need cool temperatures and high humidity. Grow them in a greenhouse, if you have one, and bring them in during the day to be enjoyed, but let them have a cool place to sleep at night. The blooms are so breathtakingly beautiful that they are worth the effort.

Like azaleas, camellias need an acid soil mix rich in organic matter, such as leaf mold and peat moss. Add a generous amount of charcoal, and use cottonseed meal as fertilizer. The soil should always be kept moist.

To prevent bud drop, use a mister on hot days to spray the plants. Light should be filtered, but plants should not be kept in deep shade.

CHRISTMAS CACTI

Christmas cacti bloom between November and March. They are easy to grow and sure bloomers if you know what to do. Plant them in pots no larger than 5 inches in diameter. Use a gritty, porous soil mix consisting of garden loam, leaf mold, and sand. Add a generous sprinkling of well-rotted or dried cow manure. Do not use any bonemeal or lime in the mix.

Put the cacti in a permanent place away from direct sun and drafts, in an east or west window. If they must be in a south window, the sun should be diffused through a curtain. Keep the soil almost dry until the flower buds begin to appear. Water moderately until the cacti are through flowering. Reduce the watering as soon as flowering stops, to give the plants a rest until new shoots start growing. During the resting period, cut off any straggly growth.

Water freely while new growth is forming in the spring. When Christmas cacti drop their flower buds before they open, it is usually because of too much or too little watering, drafts or sudden changes in temperature, manufactured gas in the air, or too much handling. Do not move the plants while the flower buds are developing.

COLOCASIAS

Colocasia, or elephant's ear, is a caladium. The heart-shaped leaves are huge, measuring up to 2 feet in length. Elephant's ear plants, sometimes grown in tubs, will grow 6 feet or taller.

Despite their delicate appearance, they are easy to grow. Bulbs can be started indoors any time from late February through April. They need 6 to 8 weeks to develop clumps of several strong leaves. The potting mix should be about half peat and half coarse sand. Cover the planted tubers with a one-inch layer of peat moss.

Water the tubers often enough to keep the soil mixture damp. Roots grow from the top of the tubers; they must be kept moist and covered with peat moss. Keep the room temperature no lower than 70°F. Tubers often rot in cool soil.

As soon as roots develop, replant the tubers, putting them in 6 inch pots. Use a mixture of equal parts garden soil and peat moss. Grow the plants in a lightly shaded area, never in direct sunlight because the leaves burn easily. Try to balance the light and shade to get the most color in the leaves. When plants are grown in deep shade, the leaves will be more green and less pink.

Water and fertilize colocasias at least once a week. Fertilize with a mixture of 1 tsp. 20-20-20 liquid fertilizer to a gallon of water.

CYCLAMENS

Cyclamens are plants worth cherishing and best of all, they are not really difficult to grow. Keep them in a cool (50°-60°F), bright place where the humidity is high. Pay particular attention to giving them a cool atmosphere at night; a temperature of 55°F at night enables them to withstand warmer temperatures during the day.

When your plants need watering, stand them in a basin of water until the top of the soil becomes damp. Allow to drain. With proper care, these beauties can continue to bloom from Christmas to May.

When your cyclamens cease flowering, the leaves will begin to turn yellow. This does not mean that the plants are dying, but is a signal that they want to rest. Clean away all the dead growth from the corms and reduce the water supply. Around the last of May, cease watering entirely and expose the pots to full light until around the first of August, then begin watering. When you notice young leaves developing, repot in the next size container and return the plants to the window sill.

EASTER LILIES

These lilies have a color range that is pure enchantment: Destiny, a lemon-yellow; Croesus, golden-orange; Joan Evans and Harmony, rich orange; Cinnabar and Tabasco, deep maroon-red; Enchantment, blazing orange; and an outward-facing type, Prosperity, which is lemon-yellow.

If you want them to bloom again, plant the bulbs in pots with only 2 inches of soil beneath the bulbs. Use a loose, porous soil, with an inch of gravel placed in the bottom of the pots. A soil mix of 2 parts sandy loam, 2 parts leafmold (or peat) and 1 part sand is ideal.

Place all varieties (except Prosperity) in a temperature of 60°F during the day and 55°F at night. Prosperity should be placed in a temperature of 40° to 50°F until the roots are established, then place them in a higher temperature.

When growth has been established and roots are forming, feed with nitrogen 10 days later, feed again. Wait another 10 days and feed with a complete fertilizer and continue until buds appear.

Easter lilies like it cool, so keep them well out of the sun and check daily to see if the soil is drying out. When it seems sandy on top, water well. Make sure the pots drain well.

SPECIAL HOUSE PLANTS

To keep lilies looking well, remove blossoms as they fade and pinch out yellow anthers as new buds open. After the last blossom falls, you should still keep your plants watered and in good light. Eventually, they will die down.

All bulbs will bloom, but the larger the bulb, the more buds you will have. So buy the largest bulbs you can find.

FUCHSIAS

Since fuchsias bloom from April to October, they are not only grown as house plants, but also in window boxes. The best time to start them for house plants is November or December.

As soon as you get fuchsias, they should be placed in 4" or 5" pots. Place bits of broken pot shards over the drainage holes in the bottom to prevent clogging and use a rich, porous soil mixture consisting of 1 part garden loam, 1 part sand, 2 parts compost or leaf-mold, 1/2 part dried cow manure and 2 tbsp. bonemeal per quart of mix. Firm the soil about the plants' roots. Water from the bottom by putting the pots in a basin of water and allowing them to soak up all of the water the soil will hold. Drain for a few minutes and place in a light, but not sunny, window. Leave them in this location until the roots are well-established, then give them a little sun for part of the day.

Fuchsias should not become root or pot-bound. Repot frequently, using the next larger size pot each time. They require plenty of light, but should be kept out of the midday sun.

Water freely during their growing season, but decrease the amount gradually from late October to the middle of November. Then repot, cutting back the plants halfway, and store in a cool, dark cellar. Give them just enough water to keep the soil from becoming bone-dry. In March, fuchsias should be returned to the light and watered generously.

From March on, give a weekly watering with liquid manure or plant food until the first flower buds appear. Pinch back the growing tips often to keep the plant compact and bushy.

GARDENIAS

Gardenia jasminoides (Veitchei), the type most florists offer for sale as a potted plant, require a minimum winter temperature of 60°F. Potting compost should consist of peat, garden loam and well-decomposed manure in equal parts laced with sand and a small quantity of crushed charcoal.

Old plants should be repotted and pruned in February. Set the plants in larger pots, add fresh soil, and sprinkle (or mist) the plants freely. After they become well-established, expose the plants to full sunlight, but keep in a moist (humid) atmosphere.

Planter mix for gardenias should always be loose and porous. Gardenias are acid-loving plants. When the soil mix becomes alkaline from the accumulation of hard water salts, iron is not available to the roots. The top leaves turn yellow. When this happens, iron sulfate must be added to their diet.

Remove the flower buds during the summer and the plants will bloom in autumn and winter. Water freely in summer and add liquid fertilizer once a week to established plants. Less water is needed in winter, but never let the atmosphere or soil remain dry too long.

GERANIUMS

Most geraniums dislike being coddled. Unlike many plants that originate in the tropics, they need average potting soil, one that is not overly rich. One part each of sand and humus (peat moss or leaf mold) and 2 parts garden loam, with a small amount of fine ground bonemeal or superphosphate, is a perfect mix.

Fertilizers high in nitrogen produce more foliage and fewer flowers. Geraniums only need fertilizer when they're getting ready to flower. The rest of the time, keep the soil packed firmly around their roots. While flowering, add some Yarden Activator to the water and water a little more often, but try not to splash the water on the flower buds because they rot easily.

SPECIAL HOUSE PLANTS

Geraniums love sunshine and enjoy all you can give them, especially in winter. While they do not flower all year long, these obliging plants permit you to choose the season. If you want winter flowers, pinch off any summer flower buds. If you want summer flowers, do not let any flower buds form until after March.

One thing is absolutely necessary if you plan on forcing your geraniums into bloom, and that is to have them pot-bound. (This means that the pots your plants are in should be filled with roots.) Of course, this condition cannot go on indefinitely because the roots will force all of the soil out of the pot, and the plants will die.

Place several pieces of broken pot shards in the bottom of the pots to make sure that the drainage hole remains open. Be sure that the soil is sifted down around the sides of the pot, leaving no air holes, then water thoroughly.

To avoid ungainly, leggy plants, control the growth by frequently pinching back the tips, which encourages branching. Long, weak shoots are the result of too much water, too much fertilizer, or too little light.

GLOXINIAS

Gloxinias are handsome house plants with velvety flowers that come in many deep, dramatic colors. With proper care, they will last for months. They require full light, but should never be placed directly in the sun. Keep the soil uniformly moist which can be accomplished by setting the pots in a basin of water and letting it seep upward. If you must water from the top, do not wet the foliage.

The gloxinias you get from your florist will quite likely be a 2-year-old plant that has been raised from seed or cutting. These plants are tropical, so you should never put them where the temperature will drop below 50°F.

HYDRANGEAS

Hydrangeas bloom for a long time if you keep them well-watered and out of direct sunlight. Water at least twice a day or submerge the pots in a basin of water daily, and then drain. After your hydrangeas have finished blooming, cut back all of the stems that bore flowers, then plant them in your garden in a shady spot. The stems that have not bloomed will often produce blooms during the summer.

If you bring the plants back inside for winter, cut them back severely after they have bloomed and repot in fresh planter mix. Keep them in full sunlight, give them a great deal of water and feed them with liquid fish emulsion once a week.

SUCCULENTS

Defining succulents is a little more difficult than defining cacti. Cacti are succulents that can store moisture, but not all succulents are cacti.

Cacti, with rare exception, do not have leaves. But succulents, far from belonging to any one family, may be lilies, amaryllises, daisies, milkweeds, crassulas, and even geraniums. There are interesting and often very dramatic types among these, such as the aloe vera, and no book on house plants would be complete without describing some of them.

Pot culture for most succulents is similar to that for cacti; many of them are propagated in much the same manner, by removing suckers from the base of the plants, and potting them as individuals. For pot culture, fill the container with about a quarter of drainage material, and the rest of the mixture should be about two-thirds loam and one-third coarse sand. Add a little crushed limestone and bonemeal.

Pot in the spring and water sparingly in the summer; only when the soil becomes quite dry. Then from September to March, water only enough to prevent the leaves from shriveling.