

The Cultivation of House-plants.

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So many people condemn the cultivation of house plants; saying that it is just a waste of time because you get nothing for all your work and you might spend your time a great deal more profitably in growing something to eat or to sell. These people evidently see only the money side of life. They do not take into consideration that there are other valuable things to be gained in this world besides money and while their value cannot be measured according to a fixed money standard, still they are just as essential to a persons existence and perhaps more so.

One of the first and important qualities which the cultivation of house plants contribute to an individual is their refining influence. People who cultivate flower plants see the beauty in them and from these they are taught to see the other beautiful things which surround them. Another quality which the house plants contribute is pleasure. All persons who love plants

experience a genuine thrill of pleasure as they watch the growth of some choice plant, seeing the little leaves develop and gradually reach maturity, or it may be some bud which has been watched over tenderly and is now unfolding its little petals revealing the wonderful beauty that nature and man's care are able to give. It is this wonderful work of nature aided by man's care that I intend to discuss. I do not intend to write all that there is to be written on this subject because it would take volumes and volumes to contain everything known about the cultivation of houseplants, but I hope to give a few points in general and also some in particular which every beginner, like myself, ought to know.

The first thing to understand in order to make a success in plant growing is that plants differ in their structures and therefore in their requirements as to environments, in fact we seldom find any two kinds of plants requiring the same treatment. Some

will require very rich soil, while others require a very poor soil and still others thrive best in almost pure sand. Then again, some will require a large amount of water and sunshine while others seem to thrive best with little water. Some plants, like the ferns, require plenty of moisture and little sunshine. Thus it will readily be seen that the needs of each individual plant must be studied in order to give it the treatment necessary to make an ideal plant. Still there are a few requirements common to all plants without regard to their kind or structure. The four most important of these are; temperature, fresh air, cleanliness and moisture.

The best room temperature for winter and early spring is 48° to 50° F during the night and 60° to 75° F in the daytime. Never should the temperature go below 35° F or it will prove fatal to the plants.

Give the plants plenty of fresh air. The need it during the winter as well as in the summer, just as much as a person does. Many people think that it would not

possibly do to let any cold air in where their plants are kept thinking that it would mean sure death to them, but as a matter of fact a little of the wintry air so long as it does not blow directly on the plants invigorates and stimulates them to better growth. Of course if plants are shut up in very warm airtight rooms for a considerable length of time, it would not do to suddenly give them a strong chilly blast of air thinking it will do them good for it will not, because they have become very tender and sensitive and they would be likely to suffer from the sudden fall of temperature. Also if plants are kept in warm close rooms, they will be more likely to succumb to diseases and plant enemies which soon get the best of them. Many a mild winter day the temperature is as high as 65 and 75° in the sunshine. These are the days to be taken advantage of to give the plants their out door air.

Among the most important requisites for good houseplants is to keep them clean.

As we all know, yet do not often think about it, the under side and in most plants the upper side of the leaves are covered with millions of little pores through which the plants breathe. The oxygen and moisture is exhaled through these pores and carbon and moisture is inhaled. If these pores are filled up with dust particles, the plant cannot perform these functions and life becomes extinct or is at a stand still. This is one of the cases where it is easier to prevent than it is to cure after the plant has been so neglected. I do not think it is requiring too much work on the part of the owner if he really loves his plants to take each leaf separately and wash them, taking care not to bruise the leaves. His reward will be in seeing how nice and fresh they look after their bath.

There are a number of instruments used for washing plants, some of which are sponges, little sprayers, or I have found that an old soft tooth brush answers the purpose very satisfactorily.

When sweeping and dusting I find that a newspaper is better for protecting the plants from dust than a cloth, because the dust particles will sift through a cloth while there is little possibility of them sifting through a newspaper. Besides this a newspaper owing to its stiffness, can be more easily arranged over plants so as to avoid crushing them. It must not be supposed though, that dust settles on plants only during the time of sweeping and dusting and that if they are protected during that time they will not need to be washed. Little particles of dust keep sifting down onto the plants all day, so it is necessary for them to be washed just the same. The very best bath that can be given plants is the kind nature gives them, just a good warm shower.

No one doubts the fact that the ground around plants need moisture yet people supply the plants with this moisture because they have seen others do it and they probably

have never thought of the real purpose which water serves. In the first place water supplies to the roots fertilizing material contained in itself. Second; it converts the nourishment in the soil into a liquid form making it more readily fit for absorption by the roots of the plants. A great deal depends upon the nature of the plant as before stated, as to the amount of water required. Some plants if given very much water will damp off, as it is called, that is, the stems become rotten and that will be the last of them. Others absorb several times as much water and still seem to be in need of it. A good general rule is, never to water plants when the ground is moist to the touch.

It might be well to consider at this place, the aspect for plants. It is generally considered that the best aspect for plants grown in a room is the east, southeast or south west window. Never in a north window. Why it is thought that the morning sun - light is the best for plants, is a question I have never been able to answer to my entire satisfaction. There probably is a good reason for

giving the plants the morning sunlight because ~~we~~ do know that plants do thrive better if they have it. The reason a north window or room is not good for plants during the winter is that besides being the coldest place in the house, the plants would get no sunlight worth mentioning.

It will be necessary if the plants are kept in the same window all the time to turn the plants once or twice a week so they may get equal light on all sides and thus prevent that lopsided appearance sometimes seen. Then too if left too long before turning, the plants in their effort to get the sunlight will bend back and make a crook in the stem thus making the plant have an ungainly appearance. Some people prefer to have the leaves grow all at one side of the plant so as to form a semicircle, this looks very well for some plants but most plants look best with the leaves and branches cultivated on all sides. One author says in regard to moisture or the lack of it, "If plants drop their leaves or the leaves become yellow

it is usually owing to one of two causes; either that the soil is too wet or too dry. Either condition will destroy the small rootlets, which is indicated by the condition of the leaves. There is usually more injury done from the plants being too wet or too dry.

Very few plants live through their natural lives without sometime being infected with its insect enemies. There are three insect enemies most common to the house plant. These are the Aphis or green fly, the red spider and the mealy bug. The aphis is a little fly which possesses remarkable ability to make long jumps from one leaf to another and they are so quick about it that it is almost impossible to pick them off the plants. Besides this these little flys are almost exactly the color of the leaf they feed upon thus making them very hard to see. If a white paper is placed beneath the plants so infected and then y as the plant the little flys will drop on the paper and can readily be seen. This is one way of removing these pests

if you immediately take them and destroy them. Another way to destroy the aphid is to sprinkle a little powdered tobacco over the leaves after having first moistened them with a little water. Fumigating with tobacco smoke is also used, but this might be somewhat inconvenient unless the plants were taken quite a distance from the house in which they are kept else the odor will penetrate through the rooms. The eggs of the aphid are readily destroyed with warm water.

The red spider is the smallest insect which do damage to house plants. It looks very much like a little tiny dot as it is resting in its little web, or on the leaf. It might well be said of these little red spiders that while they are the smallest of insect pests yet they are the greatest because when once they get well started to eat upon a plant it is next to impossible to destroy them before they have finished killing it. This pest is most likely to appear and thrive the best in rooms where the atmosphere is both hot and

dry, so that the best way to manage them is to keep the stems and leaves of the plant moist. The leaves may be washed with a damp cloth or sponge or strike them forcibly with a spray of water. I have tried freezing these pests off when they happened to be on a hardy plant and met with fairly good success although I should not recommend such treatment very strongly because with most plants the spiders would be preferred to the freezing. The spiders can easily be detected because they always spin their little fine webs upon the plants and also as they feed on the under sides of the leaves, little dead white spots where the substance of the leaves have been eaten out will be seen over them.

The mealy bug is a flat mealy bug about the size of a pinhead. It is usually found along the stems of plants or in the junction between the stem and leaf or stem and branches. About the only way I know of to remove the mealy bug is to pick it off the plants with the fingers. If this is inconvenient some instrument such as a pencil may be

used to remove them with, but care should be taken not to injure the plant during this process. Whale oil soap used as a means of removing this pest is recommended by some authors but such a soap might not be procured any time a person wished to use it.

The propagation of plants is very important to the person just beginning plant culture and our commonest plants and some that are not so common may be easily propagated in four different ways viz 1. cuttings 2 division of the roots, 3 by offsets and 4. by seeds. The best cuttings should have a bud for growth and the root end should be cut slantingly downward although some cuttings start just as well if cut straight across. Very much depends upon the time the cutting is started and also the condition of the cutting itself if it is to make a good growth. Some cuttings need wood well ripened while others will start best while comparatively young and tender. Then again, some cuttings start best in the fall and winter while others may be grown more easily in the spring. Usually medium matured parts of the plants are the best

for starting fresh plants from. After trimming off a large part of the leaves it is then ready for its starting soil. The best soil that has yet been found for starting cuttings in, is the ordinary coarse sharp builders sand unmixed with soil or loam. Place the cuttings in the sand being sure to pack it firmly around the base of the plant to keep out the air. In regard to sunshine I find that cuttings differ as to their need of it. Some plants require sunshine from the very day they are placed in the sandbox to the time they die of old age, while others of the more tender variety usually need protection from the sun and also a covering of glass to keep the moisture around them until they are well started. Care should be taken that the cuttings do not lack for moisture but do not make the sand too wet because the one extreme may be just as hard on the plant as the other extreme of not giving it enough moisture. The best condition is to have the sand just moist enough to remain in whatever position or form you may give it. It is hardly possible though to get the sand too moist if placed in the proper kind of utensil.

this should have an opening or openings at the bottom and as sand drains readily all the surplus water will eventually be drained off.

Division is simply taking a part of the roots of one plant and using them as a basis for a new plant. A great deal depends upon the plant as in cuttings, whether this mode of propagation is successful or not. Some plants which are hardy and strong and of a rather coarse texture will make good plants with little or no care at all while others of a delicate texture sometimes require a great deal of coaxing and the best of surrounding conditions in order to make them grow. When dividing a plant care should be taken not to bruise or cut the roots any more than is absolutely necessary. Some plants such as the *Cyperus alternifolius*, sometimes termed the Umbrella Palm, which sends up little individual plants some distance from the main plant are very readily propagated in this way by taking a knife and severing the roots which connect the little plant with the main one. This smaller plant should be planted in soil similar to that from which it

was taken and it will keep on growing apparently as though nothing had happened.

Offsets are little lateral shoots with a cluster of leaves, which are found on some plants. If these lateral shoots are taken off and placed in a pot with suitable earthen mixture they will soon form new plants. Bulbous roots are propagated in this way.

Nearly all the house plants used in window gardening can be grown from seed. What the seed requires to promote its growth is warmth, moisture, proper temperature, shade or protection until seeds have started and a soil suitable to promote its growth. When the seeds are starting to grow, it might be well to place a glass above them so as to protect them and keep in the moisture although too much water should not be used as it may rot the seeds. Seeds should not be sown too deep. A good rule to follow for most seeds is to plant them in depth according to their size, the little fine seeds like *Fetumias* only require a slight sprinkling of soil over them. Then, says one author, when the plants have come up and the second tier of leaves begin to show it is time

to transplant them into pots and boxes into which they are to bloom during the summer. Some seeds which have a hard shell require soaking over night in warm water before they will germinate readily.

I shall now endeavour to discuss some of the plants individually, which may be grown in the house. The plants will be divided first, into foliage plants. Second, into flowering plants. Among the foliage plants I shall discuss Ferns, Begonias, Coleus, Wandering Jew and Umbrella Palm (not strictly a foliage plant). Among the flowering plants, Geraniums, Carnations and Oleanders.

One of the most essential plants for window decoration is the fern, for although it never has a beautiful flower, the great number of its finely divided leaves always makes a beautiful background for any flowering plant, or it may be used very well as an ornament in itself. The soil for potted ferns should be of good rich loam with some sand mixed in with it and if possible some good leaf mould should be

added to it, greatly increasing the desirable qualities of the soil. The ground should be kept moist although perfectly drained. Ferns require little sunshine for their growth seeming to thrive best in the same kind of environment as their forest relation. A high temperature is injurious to them. It has been said of some ferns, like the maiden hair that water should never touch their leaves or they will immediately wither up. This I do not believe can hardly be true because I have seen the most beautiful maiden hair ferns growing along the sides of old wells and the sides are sprayed every day when bringing up the bucket full of water. Among the commonest and hardiest ferns to be grown is the *Nephrolepis Exaltata*, variety *Bostoniensis* or Sword Fern. It has very profuse foliage, the leaves being made up of a number of small leaflets which are somewhat the shape of a sword.

Begonias might well be classified under those used for flowering plants although the most of them have more beautiful foliage than flowers. The soil should be of a sandy loam. The most of the Begonias are very easily started in sand from cuttings. Be sure to keep as even a temperature



Roots of Wandering Jew.

9. days growth.

as possible in the room both when starting the cuttings and during the growth of the plant. The most common variety used is Begonia Rex. This is a very beautiful plant having large leaves which are covered over with silver spots and the leaves usually have a margin of crimson around them.

The coleus is a true foliage plant and is used very much for borders around beds or they make a beautiful bed just by them selves. The color of the leaves vary from light yellow and yellow and green to a deep velvet red. Coleus grow best in a uniform moist warm temperature but this is hard to secure in a house. They are easily started from cuttings. Among the varieties used are the Princess Royal which has a leaf of dark reddish brown with a light yellow margin, and the Queen Victoria which has leaves of a bronzy crimson.

All of us are familiar with the Tradescantia or Wandering Jew. It grows in almost any soil you happen to drop it and even if placed in water will send out roots and grow. It makes a rapid growth, sometimes so rapid that it be-



Roots starting from the leaf
of an Umbrella Palm.

Three weeks growth.

comes a nuisance in some localities. Yet when we really take the trouble to examine it we find that it has a beautiful little leaf of bright green striped with silver, the under sides of the leaves being bright crimson. If this little plant did not increase so rapidly and was not so common I believe we would call it one of the most beautiful plants in our possession.

The Cyperus Alternifolius or Umbrella Palm, Genus of rush or grass like ~~perennial~~ ^{perennial} herbs is a very beautiful plant for among the flowering window plants. It has a long rush like stem and at the very top contains two or three whorls of long sharp leaves. As stated before, this plant may be propagated by division of the roots or the part containing the leaflets may be cut off leaving three or four inches of the stem. The head of this may then be either placed in water to start roots or it may be placed in good moist earth and it will almost immediately start to grow. Care must be taken of course that the head is not completely covered as it needs a part of the leaves to help perform its life fun-

ctions. The whorl of leaves should be cut off about $1\frac{1}{2}$ inches from the centre.

Among the flowering plants the most common ones to be seen in our window gardening are the geraniums. These may be easily started from cuttings. After they have started they should have rather sandy soil and some leaf mould is good for them. Our geraniums have increased so fast that now there are hundreds of varieties where before there were only a few known and they are found with both the single and the double form of flowers. Among the sweet scented geraniums are the *Pentriculatum erectum*, ~~having a rose~~ ~~scented~~, and the leaves have the appearance of being cut. Also the *Odoratissimum erectum*, this is nut-meg scented. Among the foliage geraniums is the Madame Chandon which has a large flower of a bright red color.

The carnation requires a rich soil with the mixture of a little sand in it. Carnations may be started either from seeds or from cuttings. The cuttings should always be taken the third joint from the top. Also a part of the leaves must be taken off before beginning to



Roots of the Oleander.

start them in sand. The cut at the root end may be either a slant of about $\frac{1}{2}$ inch or they may be cut straight across. Be sure and do not in any way injure the lower part of the cutting by bruising or fraying or the roots will not start.

The Oleander is one of the most beautiful shrubs we have for blooming in winter and spring. The flowers are large and double and may be pure pink, pink with white dots or pure white. The Oleander may be started in water. Choose small branches with quite well ripened wood at their base, break these off at the joining of the branch with the main shrub, place in water and keep in a rather dark place. Do not be in a hurry to see the roots start for it is a naturally slow plant in starting roots. It took my Oleander six weeks to start the roots well. After the roots are well started put the plant in a good rich loam. Give it good drainage and plenty of water. Oleanders start the best during the spring and summer months.