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PROPAGATION OF TROPICAL FOLIAGE PLANTS

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Most foliage house plants come from the tropics. These plants require a temperature around 60 to 70° F to grow; they will stop growing at 50° F and will be badly damaged at 45° F. Other species come from the temperate zone and can tolerate temperatures to almost freezing and, if hardened off, can survive being frozen.

Our customers learn about the different foliage plants through a magazine or a book or advertisement where they see a perfect plant — no broken leaves, no leaf spots, and the plant has perfect shape. So, of course, that is what they want to buy.

There is our challenge, or half of it, to produce a perfect plant. The other half of our challenge is to grow those perfect plants and make a profit for the company even with the price of pots going up all the time and wages for our employees going up. This all means that of the 100 plants you start you had better sell 100 or you will not make it. There are several things that help. As you think about the kinds of house plants that are popular today you will notice two things:

1) they are a little harder for Mrs. Housewife to kill than usual, and

2) their cuttings will root fast and easily if treated right.

In the production program at R & S Nursery we use several different methods to start the plants; which one we use depends on the plant, its size, the time of year, and the weather.

For our environment control we use either a mist with bottom heat, or no mist and no bottom heat. All of our cuttings are stuck in the pots to be rooted whereas our seed is germinated in flats and the plants transplanted into pots.

In determining how to root the different species of plants, I try to notice what the ideal growing conditions are. It seems that with the plants I work with the condition which gives the best growth is also the condition in which they will root best.

Some examples of the methods I use are: The succulents, which are started out of the mist. Jade cuttings are put into a warm area and the soil kept DRY until they start to root; then they are kept lightly moistened. The peperomias are started in slightly moist soil until rooted then, to prevent disease, they are allowed to dry between watering. I use tip cuttings with these species, although leaf-bud cuttings and even a leaf cutting will produce a new plant but it takes too long to be economical.

The ivys (*Hedera helix*) are also started out of the mist; with these I use sections of plant 2 or 3 nodes long with the leaves attached; they are stuck 2 to a pot in moist soil and kept in a cool greenhouse.

There are several plants in the *Plectranthus* genus that I start out of the mist. These are kept in moist soil. They are rooted in one week and are ready to sell in two more weeks. It is too bad everything couldn't be turned out that fast.

Plants that I start under mist include the genus *Pilea*; these are a group of plants that come from Southeast Asia. If these plants are not rooted under a mist the leaves burn and the older ones drop. This will leave a plant that is not good enough to sell. It is only useful to move up to larger pots and that is a waste of time.

Other plants that are started under a mist are the velvet plant (*Gynura aurantiaca*), the piggyback plant (*Tolmiea menziesii*), the spider plant, *Chlorophytum capense* (syn.: *C. elatum*), *Iresine*, and *Maranta spp*. These are all done as tip cuttings; the smaller ones go two to a pot, and the bigger ones one to a pot. For piggyback or spider plant I use a well developed plantlet.

When using the mist system it is important to remember to

take the plants off the mist as soon as they are rooted because, as rapidly as they grow, it is important to harden them off before selling them. Also, if left in the mist and heat they will grown extremely fast. This makes the new growth soft and very susceptible to disease and insect attack.

We propagate 7 different species by seed: schefflera, dwarf schefflera, green nephtysis, *Philodendron selloum*, coffee, *Dizygotheca elegantissima* (Syn.: *Aralia elegantissima*), and Fatsia japonica (Syn.: *Aralia seboldii*). These are planted two or three to a pot after the first true leaf forms.

Seeds of all of these germinate best at warm temperatures (about 80° F) and except for *Fatsia japonica*, temperatures around 60 to 70° to grow. *F. japonica* plants grow best at a cooler temperature (55 to 50° F).

I have in the past propagated some of the variegated *nephthytis*; this is done by stripping all the leaves from the vine and cutting at each node to leave an inch of stem. These are stuck in soil so that the bud is at the surface of the soil. They are kept barely moist and warm and should be rooted and starting to grow in about one month.

An important part of our program is the size of the cuttings we use. In the past I have seen plants from large cuttings that have been rooted and sold. To me this is not right; these plants are soft and, depending on where they come from on the mother plant, they will not be very well adjusted to the light intensity. We try to make our cuttings a little smaller. This allows the plant to grow to saleable size, which is at least as high or as wide as the pot. These plants will be hardier and better adjusted; they will not deteriorate on our customers shelves before they are sold. And, just maybe, they will last a little longer on Mrs. Housewife's window sill.

COMMERCIAL PROPAGATION OF LILIES

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The past 15 years has seen a revolution in lily cultivation; this is especially true in Holland where the acreage has increased dramatically from 600 to over 3,000 acres annually. The propagation of these plants is achieved through both sexual and asexual methods and these procedures will continue to hold their place in crop production as both have their distinct advantages, depending on the market served.