

The Basics

*P*ropagation

Once you are into growing plants you will have a strong urge to propagate them. It is one of the more rewarding aspects of gardening. There are many ways in which to accomplish this objective, and there are many reasons for wanting to propagate: to increase your stock of plants, to share your stock with friends, or maybe to supply the sales table at your local chapter or plant group.

Tools and materials for your propagating area should include: starter mixes, rooting hormones (optional), propagation boxes, scissors, an X-Acto knife or razor blade, a small watering can and a misting bottle. Many different types of rooting media are used for the purpose of propagating. Personally I have had great success with a fine grade of vermiculite. Other media used are a commercial starter mix (which is normally a very light soilless mixture), coarse vermiculite, perlite, long-fiber sphagnum moss, milled sphagnum, sand, or a combination of any of the preceding.

Many different items may be used as propagating boxes. These include commercial propagating boxes as well as any clear plastic box such as sweater or bread boxes. Food containers from the deli are also useful, and a pot enclosed in a plastic bag will be just as effective. A seed tray with a plastic dome may be used for seeds or for leaves and smaller cuttings. Various sizes of plastic drinking glasses may also be utilized. Some years ago individual domes to fit different size pots were available, but they seem to have been taken off the market. A clear plastic drinking cup inverted on top of the pot may be substituted for this purpose.

Plants and seedlings should be well established before transplanting, and it is advisable to gradually remove the covering to acclimatize them to life without a protective dome.

Only minimum lighting is required for propagation. Prop boxes should be placed at the lower end of the light stand or on a table beside a window. I normally place mine on the floor beside the light stand and find it quite adequate.

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Here are some of the most popular ways of increasing your stock:

Single leaf - Most gesneriads can easily be propagated by using a strong healthy leaf. With the larger leaves (e.g., *Saintpaulia*, *Streptocarpus*, *Chirita*), use your blade to cut the petiole of the leaf to about 2.5 cm (1") in length, at a 45-degree angle. Plant it firmly in your starter mix which has been dampened. Enclose it in your propagation box and place the box at the lower end of your light stand.



Leaf wedges - This method is more suitable for larger leaves which can be easily cut into sections. The Florist Gloxinia, *Sinningia speciosa*, is an example. Place a leaf on a flat surface and cut it into wedges starting at the midrib and following the contour of the secondary ribs that run on an angle on both sides of the main rib. You should end up with three or four V-sections. Plant these in the same manner as you would a leaf.



Leaf halves - Mostly used for propagating *Streptocarpus*, this method will increase the number of plants which you may derive from a single leaf. Again place the



leaf on a flat surface, and with a sharp tool cut out the center or main rib completely. With a pencil or a dibber make an indentation 1/4 inch deep in the starter mix and place the halves, cut side down, in the indentation. Firm the soil around the leaves. Plantlets will emerge from each of the secondary ribs.

Leaf pairs - Take a plant which has parallel leaves attached to a stem, such as *Columnea*, *Aeschynanthus*, or *Condonanthe*, and cut it just above each pair of leaves, leaving the longer part of the stem at the bottom of the leaves. Place each section in your starter mix ensuring that the leaves are barely resting on the medium. Roots will form at the node and new growth will emerge from the top.



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Tip cuttings - Again take a stem and cut it into sections. After removing the bottom leaves, place each section in starter mix ensuring - that the bottom end of each section is placed in the soil. As the plant develops, it is best to pinch out the tip of the cutting. This will encourage branching and a fuller, more compact plant will result.



Suckers - These are extra growths that may start in the axils of the plant (i.e., *Saintpaulia* or *Petrocosmea*) or grow underground (i.e., *Gloxinia*). Quite often, as in the case of *Gloxinia*, one will find these appendages growing out of the drain holes of the pot. They are rooted and can be removed and repotted. Leaf axil suckers can be removed with a sharp pointed tool and planted in starter mix. Often, as in the case of *Petrocosmea*, the suckers are formed so close to the soil that they may have already rooted. These may be planted directly in your potting mix.

Stolons - These are rosettes of leaves at the terminus of a thread-like runner. Commonly found on *Episcia* and *Alsobia*, these appendages can be removed and potted up separately, or, without sundering them, can be pinned down to the soil in a pot placed adjacent to the mother plant. They may then be detached when rooted.



Rhizomes - These are more or less elongated subterranean shoots, often scaly in appearance. These are produced during the growing season of the plant, but production will speed up when the plant starts to go into dormancy. Producing rhizomes is the plant's way of surviving until the next season. Rhizomatous gesneriads include *Achimenes*, *Kohleria*, *Smithiantha*, *Gloxinia*, *Diastema*, *Eucodonia*, *Niphaea*, *Phinaea*, *Koellikeria*, and many of their intergeneric combinations. Not



all require a dormant season, but they will not hesitate to go into dormancy if given a long drying-out period. When the plants are dormant, the pots can be stored in a cool area of the plant room and may be given an occasional misting. When new growth appears, they can then be brought under the

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lights. If you wish to harvest and store the rhizomes, wait until the pot is completely dry, empty the contents on a piece of newspaper and with great care remove the rhizomes. These may be placed in plastic bags with slightly moistened long-fiber sphagnum moss or vermiculite. Place in a cool spot and as soon as growth appears, or whenever you wish to restart, you may repot them in loose soil. Soil should be slightly dampened but not wet. Broken rhizomes are not a problem as each scale will produce a plant. Rhizomes may be broken intentionally for purposes of propagation.

Aerial propagules - These are rhizome-like attachments that form on the plant above ground. On *Achimenes* these will look exactly like the underground rhizomes except that they are smaller and of a greenish color. On *Gloxinia* they are threadlike appendages which sometime appear knotted. These can be detached and planted directly into the soil.

Tubers - *Sinningias* form tubers and can easily be multiplied by taking the crown from the tuber. Remove the bottom leaves and place the stem in the starter mix. As soon as it has formed a tuber, the top may be discarded and new growth will appear. The leaves may also be started in the same manner, but leaves will take a longer time to produce tubers. Once a leaf has started to form a tuber, it will normally increase in size and will stay quite green and healthy. As soon as the tuber is well established and can start feeding on its own, the leaf will start to deteriorate. It is then time to remove the leaf and replant the tuber. Occasionally the plant will produce a tuber above the main tuber. This is often brought on by the tuber being planted too deeply. Tiny tubers may form around the crest of the main tuber. These can be removed and used for starting new plants.



Seeds - These are my favorite method of propagating. From the time I was a child I was fascinated by the germination of seed. I can remember when I was just a tot planting a bean and watching it evolve. I sometimes would dig it out of the soil to see what development had taken place. Even today that fascination remains, and the temptation to unearth remains as well, although to a lesser degree. It is such a thrill to see that first speck of green appear and then to watch the leaves gradually mature.

To sow seeds, I normally fill individual pots with mix and ensure that they are all dampened, but not too wet. I then place them in a propaga-

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tion box into which I have placed a piece of capillary matting. On top of a sheet of waxed paper I combine the seeds with a small amount of the dry mix and spread it evenly on the dampened mix. It is then carefully moistened with a fine mist. This ensures an even distribution of the seeds and makes it easier for division when the seedlings are ready to be transplanted. The capillary matting will provide constant moisture and humidity without saturating the starter mix. As soon as they have developed more than one set of leaves, remove the cover and grow them in the open. Seedlings of tuberous plants should not be transplanted until they are quite mature. Fibrous-rooted plants can be transplanted as soon as they have hardened off which should be in a couple of weeks after they have been uncovered. If you are interested in growing from seed, you should take advantage of the AGGS Seed Fund. It offers a vast variety of seed at low cost.

