

## Rex Begonia Propagation: Propagation Tips and Wives' Tales. Keeping Plants True-to-Type for 30-Plus Years

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### Summary

This presentation revisits the propagation methods for rex begonia plants, updating knowledge shared 20 years ago. As nursery production has evolved, the challenge of scaling up the propagation of rex begonias, plants that did not fit conventional production protocols, was addressed by reassessing five key factors: heat, water, nutrients, humidity, and light. After experimenting with six propagation systems, a combination was found that allowed for efficient and scalable production of clean, true-to-name rex begonias. Methods discussed in-

clude leaf-vein nicks, pizza pie cuts, rectangular leaf cuttings, leaf petiole cuttings, the cookie cutter method, and the cannoli method. Each technique offers unique advantages in producing uniform, vigorous plants, while the choice of method depends on plant variety and production needs. The importance of clean stock, sanitation, and strong genetic material is emphasized to ensure high-quality propagation. There is value and utility in revisiting and refining methods for efficient commercial production of rex begonia plants.

## INTRODUCTION

It is a pleasure to be here with you today. I have met many wonderful plant people through IPPS meetings. They have encouraged me and shared their experiences freely. My being here today is my chance to pay back that investment made by others, and share some of my experience.

I was a bit confused as to why I was asked to speak about rex begonia propagation again as I shared most of this information 20 years ago at another IPPS meeting. It dawned on me slowly that most in the audience today were toddlers at that time.

So, it is time to repeat, update, and share again. We had built a large plant propagation business. At peak, we rooted two million plugs a week. Unfortunately, our beautiful Rex begonias we bred and selected did not fit any of our production protocols nor timing. If we cannot book a sale and ship on time, we don't have a propagation business.

So, we examined the five things every propagator does control: heat, water, nutrients, humidity, and light. Then we stepped back and reviewed the basics of clean stock, clean soil, and sanitation taught to us from the University of California system for producing healthy container grown plants.

While any 12-year-old can physically do the steps of making and sticking a cutting, a skilled propagator has to do this on time, with profit, true to name, and true to variety. We tested six propagation systems before landing on a combination that allowed us to scale up production of clean, true-to-name, vigorous Rex begonia liners.

## MATERIALS AND METHODS

**Leaf-vein nicks.** This method is the oldest. A sharp knife cut across the thickest leaf veins will yield a new plant at each nick. We generally limit the leaf cuts to 15 per leaf. We lay the leaf on clean peat/perlite mix and place it under intermittent mist.

**Pizza pie.** This method involves a sharp knife to shape 2-inch x 2-inch x 2-inch triangles from a leaf. Rex leaves have palmarately arranged vein orientation. Each successful cutting includes one or more veins at one point of the triangle, which is planted down into a plug of soilless media. Including a piece of the thick petiole makes the cutting more likely to produce multiple shoots.

**Rectangular leaf cuttings.** This method yields only one or two cuttings per mother leaf. The idea is to use a razor blade, such as an Exacta knife, to cut a 0.75-inch x 2-inch uniform piece for planting. The lower edge always includes a thick vein near the petiole. The vein runs up the rectangle. Flats planted with this method have uniform appearance, finish, and ship on the same date.

**Leaf petiole cuttings.** This is perhaps the easiest method to root begonias. It is about the only method that works 100% of the time for rhizomatous types. Simply cut the petiole about 1 inch below the lamina and place the leaf and petiole on clean peat-perlite soilless mix. Roots form rapidly at the cut petiole. Stem and leaf tissue differentiates in about a month.

**Cookie cutter.** This is our go-to method. The leaf cuttings end up uniform in size, substantially sized, and loaded with energy to root quickly and produce multiple shoots per leaf cutting. We use simple tin or aluminum cookie cutters to cut a 2-to-3-inch circle from a Rex begonia leaf. We place the cookie cutter so that it cuts the petiole 0.5 inch below the lamina. We then insert the trimmed petiole into a preformed hole in the soil plug. The leaf lamina stands up like a peacock's feathers on full display. To permit maximum light to reach the emerging new leaves and shoots, we always stick the leaf cuttings "back-to-back" in rows so that miniature canyons of sunlight are formed.

**Cannoli method.** This is an odd system that we discovered only recently, which works for rhizomatous begonias that for some reason have low yield when using the leaf-petiole method. We lay the leaf flat and excise the leaf petiole completely. We then roll the leaf lamina into a pointed cannoli shape and plant the narrow end down into a plug of peat-perlite soilless mix in a cell tray. All cut leaf veins root fairly rapidly and then shoots follow. We assume this method works because almost the entire reservoir of sugars and photosynthesis from the entire leaf is available to newly forming roots and shoots.

We always dip cut ends into a dilute IBA solution to make rooting more uniform across the flats, so we can meet predicted shipping dates. Stock plant management is key to any propagation business for Rex begonia plants. Not only do the mother plants need to be tested for viruses and bacteria, but the production facility needs to maintain sanitation protocols to keep the leaves clean.

Perhaps the most important part of any good Rex begonia propagation program is having good genetics. We have developed many great varieties over the past 25 years, which have proven strong and uniform in production, as well as performed well for customers. If a variety cannot be propagated uniformly, it is not a good variety for commercial use, no matter how beautiful it may look in a collector's garden.