



University of Florida

Recycling the Rex Begonia

The rex begonia is back as a niche crop that can bring great benefits in cool, moist conditions with a high relative humidity.

By Rick Schoellhorn



'Chocolate Man Mix'

There is always a strange sense of déjà vu in working with new crops, remembering an earlier time where you worked with a plant and then seeing it resurface on the market again. That's the way it is with rex begonias. When I was first studying horticulture at Cal Poly San Luis Obispo in California, one of my class reports was written on "Radiation Mutation Breeding in Rex Begonias." I remember being fascinated by the idea that mutation could give these plants their vivid leaves of silver and purple and red. This was right around the time the first microwave ovens were coming out, and popular opinion held that they would cook your brains if you stood near one while it was in operation. While that fear was apparently unfounded (I live in Florida now anyway, where UFO's and ballot counts are a greater concern than microwaves), it is true that the diversity of leaf colors and shapes in the rex begonia owe a lot to being irradiated with X-rays. (As a side note, this same kind of "mutation breeding" is what gives us so many poinsettia cultivars to choose from. Radiation mutation is a common plant-breeding tool that helps in some cases to jumpstart new cultivars more quickly than traditional breeding techniques).

Rex begonias are not new by any stretch; however, they are being re-marketed and with some really nice results. In the past, the market for these plants was primarily as house-

plants, but now we are thinking bigger than that and rex begonias are surfacing as an annual shade groundcover or as the foliage accent in shade mixed containers. There are also some new cultivars with better tolerance of high heat and humidity, and conversely, tolerance of low humidity. So there's lots of potential for marketing these plants as high-dollar annuals in the gardening season and carrying them over into the winter houseplant market as well for novelty sales and arrangements with seasonal plants.

REX CULTIVATION

While the extremely patient grower can produce rex begonias from seed, they are produced as vegetative liners so that color forms remain stable in production. In general, the rex group of begonias, prefers cool, moist conditions with high relative humidity. If you have good luck with tuberous begonias or reiger begonias then you'll probably do okay with rex types as well. The humidity seems to be a key factor in getting good leaf size on plants. Like a lot of begonias, rex hybrids do poorly in heavy, cold, soil mixes, so avoid both heavy soils and too much water while getting plugs established. They prefer lower light levels in production, as their leaves scorch in bright sun very quickly.

Rex begonias are sold in all pot sizes from 2 1/4-inch to specimen hanging baskets and color bowls. Since the growth habit for rex begonias is mounding, they are general-

where to buy

Primary suppliers for the rex begonias mentioned in this article.

Milestone Agriculture

Shacar Carmi
4707 Oak Hill St.
Apopka, FL 32712
P: (800) 215-2210
shachar@milestoneag.com

Euro American Propagators

Nicole Jackson
P.O. Box 289
Bonsall, CA 92003
P: (888) 323-0730 F: (760) 731-3054
nicole@euroamprop.com

Agristarts Inc.

Randy Strode
1728 Kelly Park Road
Apopka, Florida 32712
P: (407) 889-8055 F: (407) 889-2523
randy@agristarts.com



'Chicago Fire'

ly pretty compact and don't require any growth regulators in production. Some growers are producing these plants in 8- and 10-inch hanging baskets for value-added patio sales, and hanging baskets seem to suit the plant's requirement for good air circulation as well. When using rex begonias in mixed containers, it is probably best to start with a 4-inch plant, as this size begonia stands a better chance of competing with more vigorous annuals in mixed containers. Remember that lower light and cooler temperatures will really bring out the color in rex begonia leaves, and high light will cause all colors to fade.

TRIAL RESULTS

We have been trialing rex begonias to evaluate them for heat tolerance, and while the majority of plants simply cannot take our heat, there are some cultivars that showed much better quality under Southern summer production. What we are hoping for is something to fill the niche of hosta in the Deep-South landscape, as hostas have notoriously poor performance under high temperatures. We have seen great

winter hardiness in a lot of begonia species, and for us, it is finding heat tolerance that is the key to a good perennial begonia.

The results of our trials

showed that outdoor production is risky, the leaves of these begonias are very fragile, and a hard rain can tear through the foliage. Also, our evening rain patterns

increased bacterial leaf spot on all cultivars, but the plants that still did well under these conditions should show additional vigor under optimal production ▶

Culture Quickie:

Rex Begonia

Fertilization. Either 150-250 ppm liquid feed or moderate levels of slow-release are adequate for production. These begonias benefit from an occasional application of micronutrients or organic fertilizers such as fish emulsion.

Watering. Keep on the dry side but never wilted. Avoid overhead watering wherever possible to avoid bacterial leaf spot.

Media. Avoid heavy or poor-draining mixes. Most commercial peat-lite medias work fine; pH 5.8-6.8; high EC will stunt growth and cause marginal leaf burn. Use care when transplanting plugs to match soil level of plug to soil level in the container; liners potted too high never develop a good connection with the soil and grow slowly.

Production Temperatures. Will grow well from 65-70° F night and 70-80° F days.

Light levels. Approximately 1,500-2,500 foot-candles; generous spacing is key for quality plants, so don't crowd plants on the bench.

Propagation. Most liners come from tissue culture. Though rex begonias do produce seed, it is extremely small, and many seedlings may not be attractive, so clonal production is recommended.

Crop timing. Plant liners January-March for late-spring and early-summer sales. For Christmas sales, begin planting liners in mid-August. In general, no pinch is needed with this crop, nor are growth regulators needed in most cases.

Pot size/Crop time. For 4- to 5-inch sales, 1 per pot – 6 weeks; 6-inch, 2 per pot – 6-8 weeks; 8-inch, 3 per pot – 10-12 weeks; 10-inch basket, 3-4 per pot – 12-14 weeks.

Mixed containers. Be sure to select companion plants that also prefer cool, moist conditions and have a moderate to slow growth rate. Extremely vigorous plants will overgrow and shade or smother rex begonias.

Flowering. Short-day (winter) flowering in most cases, most rex begonias produce pink-toned flowers that complement their foliage colors. Consider the rex begonia as a 6-inch flowering holiday plant; many cultivars with red, silver and green leaves are a perfect backdrop for poinsettias and good for stand-alone sales.

Common problems. Bacterial leaf spot, especially where water sits on foliage overnight. Clean stock is essential, and for in-ground planting, a good mulch layer is needed to protect leaves. Also, root rot fungi are common where plants receive too much water; a broad-spectrum, soil-drench fungicide at planting is usually helpful.



'Boston Cherries and Chocolate'

vegetative matters

regimes. In this research, we trialed 37 cultivars. Our top selections based on summer trialing in Florida were:

'Chocolate Man', Milestone Agriculture. Silver and brown foliage with bright pink flowers in fall. A great fall combination of colors and exceptional vigor and leaf spot resistance.

'Maui Mist', Proven Winners. Striking pink-purple and silver-toned leaves with deep, blackish green edges, vigorous.

'Snow Queen', Milestone Agriculture. Leaves are predominantly bright silver, strong growth, disease-tolerant.

'Fairy', Milestone Agriculture. Predominantly silver-toned foliage.

'Chicago Fire', Proven Winners. Purple and green with silver markings in the centers of the leaf.

'Boston Cherries and Chocolate', Proven Winners. Reds, purples and silvers spotted over the dark leaves.

'Silver Queen', Milestone Agriculture. Another predominantly silver foliage type with a darker green edge on the leaf.

'Tita', Milestone Agriculture. A predominantly red-brown foliage with fewer high-

lights of any kind. In comparison to other hybrids, a bit drab, but these plants really performed well and would be a great addition to mixed containers.

This trial was continuing throughout the summer, and as we finally got some cool nights, all the cultivars began to look better. If there were a general observation to be made out of this trial, it would be that silver- or brown-toned leaves seem to hold up under high heat and humidity better than red-toned leaves and those leaves with lots of different colors present on each leaf. We will



'Fairy'



'Maui Mist'



'Silver Queen'



'Chocolate Man'



Begonia bowerii

continue testing begonias in 2003, but under spring and fall season conditions and in comparison with some species of begonias that exhibit good heat tolerance.

I think the main thing that "makes" the rex begonias (in fact all the foliage interest types) is that they are salable from the time they begin to fill a 4-inch pot through all later phases in production, so you have some freedom in what sizes you grow and how you use them to best exploit the high dollar niche they offer growers and retailers.

There are many little-known begonia species that have incredible potential in our expanding market; most of these are rhizomatic, meaning the stem creeps along at soil level, just like the rex begonias, but may have leaves up to 18 inches in diameter. Some examples of other promising begonia species are:

B. gigantea. Solid green foliage, leaf stalks may reach five feet in height with 18-inch leaves, white winter flowers.

B. nelumbiifolia. The water lily begonia, also solid green, but leaves are nearly circular, glossy green, and 12-16 inches around. Plants reach 3-4 feet in height.

B. heracleifolia. Star begonia is a Florida Nursery Growers Association plant of the year. Brown-purple and silver-toned palmate leaves up to 12 inches across, mounding habit and masses of pink flower stalks in winter.

B. benito-chiba. This is actually a rex-type foliage on an upright, cane-type plant. Very strong, good landscape performance in the South, but truly striking in containers and mixed plantings.

B. bowerii. The eyelash begonia, another foliage type, not as flashy as the rex, but a very strong, vigorous plant that does well in mixed containers and shade gardens. GPN

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