ELATIOR BEGONIA PROPAGATION*

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Schwabenland (Rieger hybrid) Begonias are now widely grown in Europe. Their popularity has increased steadily in the United States since their introduction by Mikkelsen's in 1970.

The originator calls the new hybrids "Rieger elatior Begonias." J. Doorenbos , a well-known begonia breeder (Laboratorium voor Tuinbowplanteteelt der Landbouwhogeschool, Wageningen, the Netherlands) classifies this type of begonia as Begonia hiemalis. Bailey[2] describes B. hiemalis as a "group of hybrids between B. socotrana and Andean tuberous species represented by varieties Emily, Clibran, Flambeau, Optima, The Pearl." According to our observations, Schwabenland Begonias are superior to previous B. hiemalis introductions in resistance to mildew and in flower life in the home. Presumably, this is why the originator developed new terminology for his introductions.

Recommendations have been published for the culture of Rieger elatior Begonias.[3] Commercial growers have had varied results when growing the plants. Such results indicate that proper cultural conditions are highly essential for best results. When in Europe in 1969, the junior author noted that most producers were using high (68° F.) minimum temperatures.

This study was initiated to determine the effect of type of cutting and rooting media in the propagation of Rieger elatior Begonias.

Materials and Methods

'Schwabenland Red' cuttings were taken on February 17, 1972. Two-inch (stem length) terminal cuttings and leaf-bud (leaf with portion of stem including the axillary bud) cuttings were used. They were inserted in seven different rooting media:

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1. Peat moss.
2. Peat moss-perlite mix (half and half).
3. Nutrient enriched peat moss.
4. Expanded peat pellets (nutrients included).
5. A commercial peat-vermiculite mix with nutrients included.
6. Peat-vermiculite cubes (nutrients included).
7. Expanded plastic foam blocks.

No rooting hormones were used. The cuttings were misted for 10 seconds every 15 minutes in the daytime. Night temperatures averaged 65°-68° F. and day temperatures 70°-75° F. Temperature of the rooting media was 68°-70° F. A soluble 20-20-20 fertilizer was applied at the rate of 300 ppm nitrogen on March 9 and on March 23. Multipots (plastic pot trays) were used for treatments 1, 2, 3, and 5.

Individual cubes, pellets, and blocks were set in well-drained plastic trays. Fifteen cuttings constituted a treatment.

Results & Discussion

Rooting results were recorded on April 6 (table 1).

Terminal cuttings rooted faster and had more roots, new shoots, and leaves than leaf-bud cuttings. Best results were obtained in the commercial nutrient enriched peat medium (3). Second best medium was plastic foam (7), followed closely by peat moss and perlite (2), peat-vermiculite cubes (6), and peat pellets (4).

Leaf bud cuttings rooted best in plastic foam (7) and the peat-vermiculite mix (5). Next best were peat moss (1), peat-vermiculite cubes (6), and peat pellets (4).

Visual observations indicated that the best leaf-bud cuttings were not equal to the slowest rooting terminal cuttings in size and appearance. Leaf bud cuttings were less uniform in rooting and 12½ percent of the cuttings had not callused or rooted after 7 weeks as contrasted to 7½ percent of the terminal cuttings. The performance of the two types of cuttings after rooting must also be considered. As the plants are still growing, a report on the finished product will be provided in a future article.

Rooting was quite different for the two types of cuttings in three-media peat and perlite (2), nutrient enriched peat (3), and the peat-vermiculite mix (5). Reasons for these differences are not known. When plant numbers are small, some unnoticed factor affecting a few cuttings adversely can significantly influence results. Regardless, the nutrient enriched peat proved very satisfactory for terminal cuttings, and the plastic foam block medium was very good with both types of cuttings.

Based on observations in commercial greenhouses, increasing the medium temperature should accelerate rooting.

The findings of this small study may serve as a guide to the commercial grower who in turn may wish to try the better media in his own range.

Table 1. Rooting of Schwabenland Red Begonia cuttings taken February 17 and evaluated April 6 (15 cuttings per treatment)

	Leaf-bud cuttings					Terminal cuttings				
Rooting medium	No root or callus	Callus	Small roots	Large roots	Rooting index[1]	No root or callus	Callus	Small roots	Large roots	Rooting index[1]
Peat moss	1	4	2	8	32	2	2	2	9	33
Peat moss-perlite mix	4	3	2	6	25	0	2	1	12	40
Nutrient enriched peat moss	5	3	3	4	21	0	0	0	15	45
Expanded peat pellets	1	4	5	5	29	2	1	0	12	37
Peat-vermiculite mix with nutrients	1	1	6	7	34	4	1	0	10	31
Peat vermiculite cubes	1	4	3	7	31	0	2	5	8	36
Expanded plastic foam blocks	0	2	6	7	35	0	0	3	12	42

[1] Rooting index compiled by giving cuttings in each category a numerical value (no root or callus = 0, callus = 1) small roots = 2) large roots = 3) multiplying by the number of cuttings in each category, and totaling.

References

1. Personal contact.
2. Bailey, L. H. 1949. Hortus Second, p. 98, MacMillan Co., New York.
3. Mikkelsen, J. C. 1971. Revised and updated instructions for growing Rieger elatior Begonias, Minnesota State Flor. Bull., pp. 13-14, August 1.