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DWARF POT ROSES

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Three European miniature pot roses were evaluated last winter. The experiments included single versus double pinch, timing and growth in two different temperatures. A second pinch did not improve the overall shape of the plants. Plants grown in a cut rose environment flowered a week earlier than those grown at cooler temperatures. Plant quality was reduced at the higher temperature. 'Scarlet' and 'orange sunblaze' had acceptable budcount and flowering habit. 'Yellow sunblaze' flowers were past their prime within two to three days after opening.

Introduction

Three European dwarf roses, 'Yellow Sunblaze', 'Orange Sunblaze' and 'Scarlet Sunblaze' were received on Dec. 10, 1982 from Conard-Pyle. The unpotted, individually wrapped, dormant plants were potted into 4-inch standard pots. Apparently, the plants had been previously rooted directly in 4-inch standard pots that had been plunged in the rooting medium. 'Yellow Sunblaze' showed high susceptibility to powdery mildew. Benlate 8 oz per 100 gal was sprayed as needed.

Experiment 1 - Pinching Study

Two groups of each cultivar, 10 plants each, were used in the pinching study. The plants were spaced 1.15 pot per sq ft and both groups given a single pinch on Jan. 7, 1983. The second group was given a second pinch on Jan. 31. Plants were grown under fiberglass at 62 F night, 65 F day, with cooling at 70 F and approximately 50% RH and 1000 ppm CO_2.

There was no noticeable difference in plant shape of the two groups. Growth was very uneven, and one application of either 15 ppm A-Rest or 3000 ppm Cycocel on a few test plants did not improve the shape.

It took 10 weeks from the time plants were placed in the greenhouse, and 6 weeks from the single pinch, to achieve flowering with a second pinch. It was difficult to determine when the plants were in prime condition and ready for sale because the flowering period of each cultivar extended for more than a month. Data were taken when the plants were showing some fully open flowers and several buds in color. Plants were not disbudded.

Table 1. Time of flowering of European dwarf roses with two pinching treatments received Dec. 10, 1982.

	'Yellow Sunblaze'	'Orange Sunblaze'	'Scarlet Sunblaze'
Single pinch on 1/7/83	2/17	1/19	2/19
Double pinches on 1/7/83 and 1/31/83	3/3	3/5	3/5

'Yellow Sunblaze' had single stem flowers which opened fast and faded within four days. Both 'Orange' and 'Scarlet Sunblaze' had multiflowered stems, with the central bud opening two to three days before the axillary buds. Flowers of the two cultivars lasted about a week.

Total flowering period in the greenhouse extended from Feb. 17 to March 21 for the single pinched group and from March 3 to April 10 on the double pinched plants.

The 1.15 plant per sq ft spacing was too dense as the plants became entangled, causing damage when they were ready to be moved.

An azalea pot instead of the standard type should be considered in order to achieve a more balanced plant shape, and to supply a slightly larger base to help prevent tipping of the container as the medium dried and the plants grew asymmetrically.

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Experiment 2 - Environmental conditions and timing

The second experiment was designed to determine the pinching schedule required for a Mother's Day crop. Two different growing environments were also used in order to determine the desirable conditions for plant growth.

Cuttings of 'Scarlet' and 'Orange Sunblaze' were taken on March 22, 1983, and after four weeks in the propagation bench, were potted into 4-inch azalea pots and placed in separate greenhouses.

A 1:2:1 (v:v:v) soil, Canadian peat, perlite medium was used for the new cuttings while the mother plants remained in the same original peat type mix. All plants were watered when the medium became dry to the touch. Conditions were:

Treatment 1: FRP cover, 62 F night, 65 F day, cooling at 70 F, 1000 ppm CO_2 and 50% RH.

Treatment 2: FRP cover, 62 F night, 71 F day, cooling at 80 F, 1500 ppm CO_2 and 70% RH (cut rose environment).

At the same time, the plants used in the first experiment were cut back at weekly intervals for a single pinch timing trial.

In the same growing conditions, it took 9 weeks from a pinched cutting and 8 weeks from a cut back to ensure full flowering. It required 10 weeks during the first experiment in winter. The decrease in flowering time was attributed to the higher sunlight during the spring (Table 2).

Table 2. Time of flowering, using single pinch on cut back plants.

Cut back date	March 2	March 10	March 21	March 27
Pinch date	March 23	March 31	April 11	April 17
First flower	April 20	April 25	May 2	May 6
Full flower	April 27	May 2	May 9	May 15

Plants grown under the conditions of a cut rose greenhouse (Treatment 2) flowered a week earlier but were of lower quality than those grown in the pot plant environment (Treatment 1) (Table 3). They had poor plant symmetry, stretched stems, small leaves, dull flower color and short flower buds. Plants grown in Treatment 1 were excellent quality, with good foliage and intense flower color.

Table 3. Time to achieve flowering of dwarf pot roses in 2 different environments.

	Treatment 1	**Treatment 2**
First day in GH	March 22	March 22
Pinch date	April 11	April 11
First flower	May 15	May 8
Full flower	May 22	May 15

The warmer temperatures, higher humidity and CO_2 levels of Treatment 2 produced taller plants (Tables 4 and 5).

Table 4. Total plant height in cm of dwarf pot roses grown in two different environments.

	Orange Sunblaze	**Scarlet Sunblaze**
Treatment 1	34	30
Treatment 2	37	38

HSD 5% = 3

Table 5. Length of longest stem in cm of dwarf pot roses grown in two different environments.

	Orange Sunblaze	**Scarlet Sunblaze**
Treatment 1	24	21
Treatment 2	29	31

HSD 5% = 3

Discussion

'Orange' and 'Scarlet Sunblaze' dwarf roses can be easily grown in greenhouse environments used for the production of pot mums, lilies or azaleas. The size of the final product can be effectively controlled and timed by pinching or pruning, selection of pot size and the length of time they are left on the bench. A single pinch is suitable for the fastest production. Like most roses, dwarf cultivars are susceptible to red spider mites and powdery mildew. A preventive program should be incorporated throughout the production cycle.

Consumer acceptance was good, especially for 'Orange' and 'Scarlet Sunblaze'. The yellow cultivar should not be used in Colorado's climate. The potential use of these cultivars for garden plants is presently being evaluated. All three varieties have been placed in the CSU Trial gardens for summer growth response and overwintering ability.