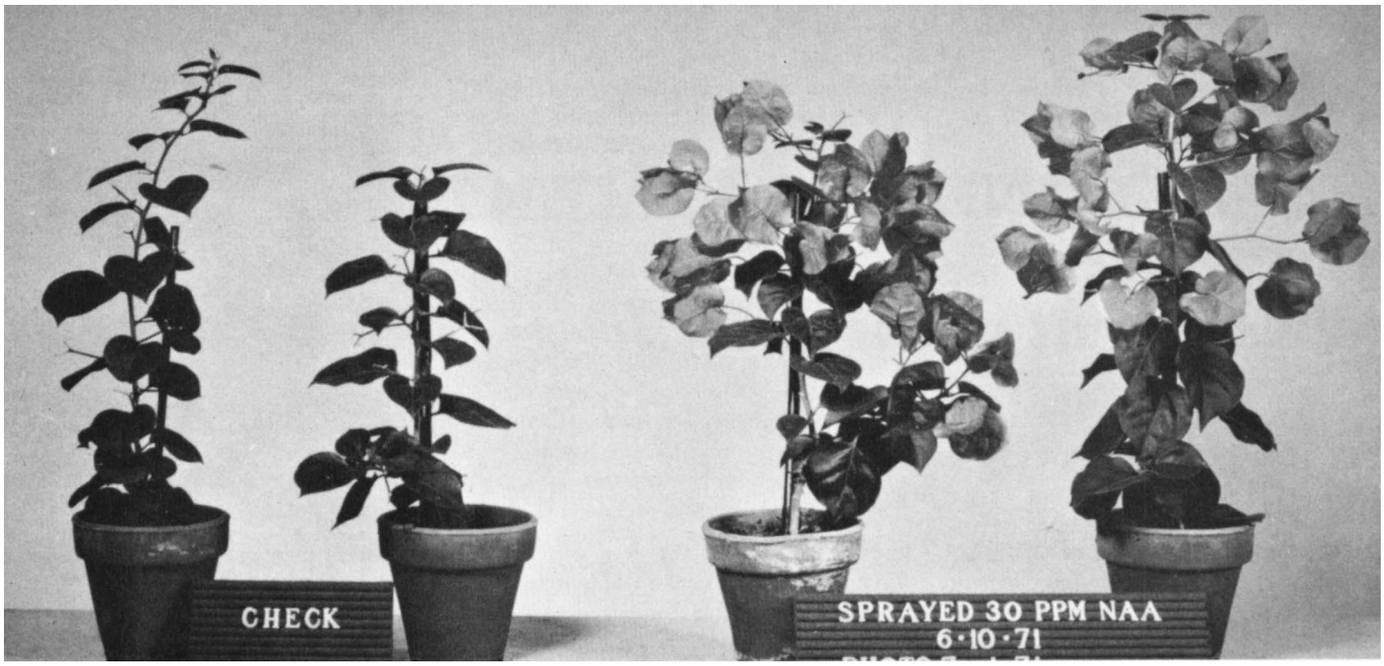

Retention of Bougainvillea flowers as influenced by NAA spray, check plants to left, and plants sprayed with 30 ppm NAA to right (plants sprayed June 10, 1971, photo taken July 1, 1971).

Growing Bougainvillea as a Flowering Pot Plant

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This article discusses the production of small floriferous bougainvillea plants, including methods and techniques for propagation, promotion of flowering, and delay of flower drop.

BOUGAINVILLEA has been used for many years in mild climatic areas of California as a landscape plant prized for its profuse display of colorful flower bracts. Such floriferousness is highly regarded not only for landscape plants but also for small container grown plants sold by florists and nurserymen to decorate indoor and outdoor living areas. Bougainvillea has not been used for this latter purpose because it characteristically does not flower profusely until it is much too large to be sold economically in a container.

Over the past several years the factors controlling flowering in bougainvillea have been determined for the 'San Diego Red' cultivar and it is now possible to induce profuse flowering on plants which are only 8 to 12 inches tall when grown in 4 or 5 inch diameter containers. The key cultural factors in producing small floriferous bougainvillea plants (see sketch) include: (1) methods used to propagate and establish plants with several branches; (2) techniques to promote flowering; and (3) methods to delay flower drop during marketing and utilization by the consumer.

The specific cultural procedures described here have been worked out using the cultivar 'San Diego Red' but the application of these procedures to other cultivars is being tested.

TABLE 1. CONTAINER SIZE, NUMBER OF CUTTINGS AND UTILIZATION OF CYCOCEL TO PRODUCE BOUGAINVILLEA POT PLANTS

Container	Plant type	Cuttings per container	Cycocel rate per container
		no.	gm
4" pot	compact	1 or 3	0.3
5" pan	compact	3 or 5	0.5
5" pot	trailing or lattice	3 or 5	no treatment
6" pot	trailing or lattice	5	no treatment

TABLE 2. RETENTION OF BOUGAINVILLEA FLOWERS UNDER LOW LIGHT CONDITIONS (100 ft. c.) AS AFFECTED BY NAA SPRAYS

Treatment		Flower retention 15 days after treatment
		%
0.1% detergent		0.8
NAA 30 ppm	0.1% detergent	55.9

Propagation and establishment

Bougainvillea is most successfully propagated from 3- to 4-inch long succulent tip cuttings the bases of which have been dipped in Hormodin No. 1 root promoting compound or its equivalent. Cuttings should be stuck in a coarse grade of vermiculite or another well drained and aerated rooting medium. After four weeks in a mist propagation bench with bottom heat of 75°F, cuttings are usually adequately rooted for transplanting to growing containers. To insure uniform growth of newly rooted cuttings, only those with well-developed root systems should be transplanted to growing containers. One to five rooted cuttings are used per container depending on pot size (table 1).

For 4 or 5 days after transplanting, it is important to place the plants under a long-interval intermittent mist (5 sec-

TABLE 3. BOUGAINVILLEA POT PLANT PRODUCTION SCHEDULE

	Time required
	wks
Rooting of cuttings	4
Establishment of rooted cuttings	3
Growth and flower formation (short days)	4–8
Total	11–15

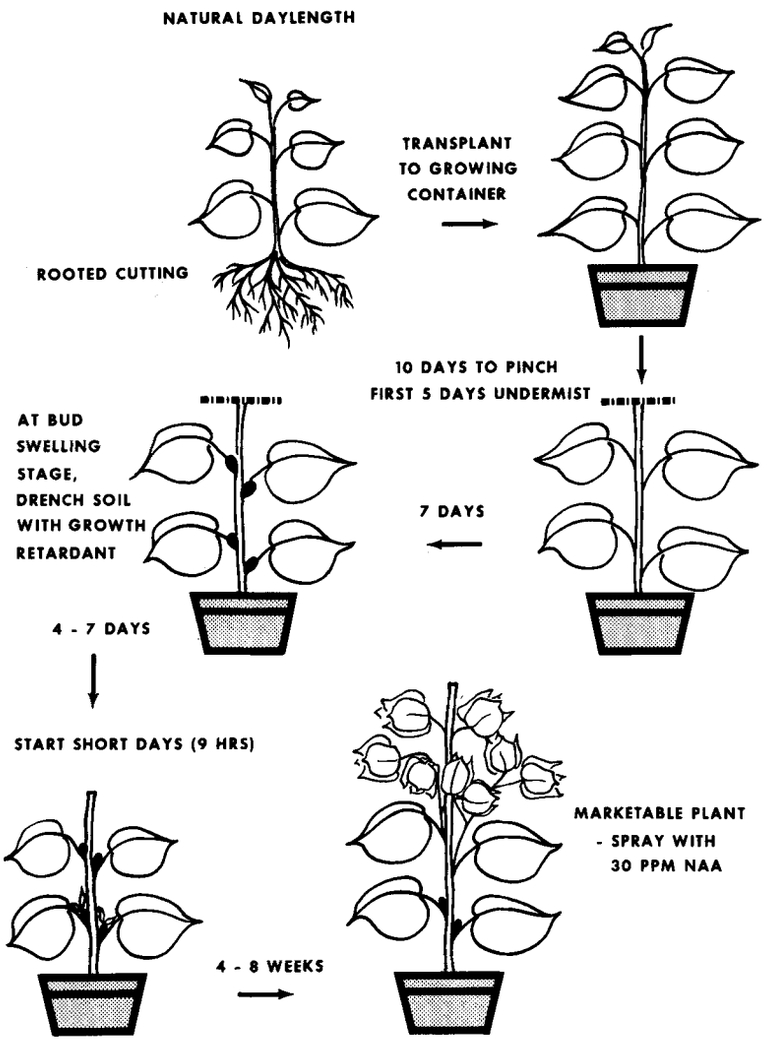
onds every 15 minutes) to reduce water loss from the leaves while the roots are getting established in the soil. A night temperature of 65°F is best for establishment of newly potted plants. As soon as the plants start to put on new growth (about 10 days after transplanting), they should be given a soft pinch to promote branching.

Promoting flowering

Bougainvillea requires daylengths shorter than 12 hours for most rapid and prolific flowering. Therefore from March 15 to October 15 plants should be placed under blackcloth each day from 7 pm to 8 am. Blackcloth can be pulled as early as 5 pm each day but this may be detrimental to flowering because of the high temperature under blackcloth when the sun is still high and because of the reduction in total light energy received by the plants. Blackclothing, when necessary, should commence 1 to 2 weeks after pinching if compact flowering plants are desired. A night temperature of 65°F and high light intensity (4000–5000 ft.c.) are conducive to rapid and prolific flowering.

Treatment with the growth retardant Cycocel (2-chloroethyltrimethylammonium chloride) promotes early flower development and ensures production of a more compact plant. Cycocel should be applied as a soil drench at the time axillary buds on pinched plants start to swell (5 to 7 days after pinching). Rates of application are shown in table 1 and depend on container size. Other growth retardant chemicals are being tested for their potential to reduce growth and promote flowering. Another compound, A-Rest, (ancymidol, EL-531) looks very promising for use on bougainvillea.

GROWING BOUGAINVILLEA AS A FLOWERING POT PLANT



Delaying flower drop

In the greenhouse, fully opened flowers are retained for two to three weeks; however, when plants are taken indoors these flowers abscise very rapidly. This drop of mature flowers can be delayed two to three weeks by applying naphthalene acetic acid (NAA) to the plants as a 30 ppm spray at the time of bract opening (see photo). Table 3 shows that about 50% of the total flower complement is retained for two to three weeks when NAA is sprayed on the plants. This 50% retention is composed almost exclusively of fully-matured flowers (photo) and it should be pointed out that NAA actually *promotes drop of immature* flowers. Plant-to-plant variability in NAA treatments is almost always due to differences in flower maturity. NAA prevents drop of mature flowers only and should be applied only when 50 to 75% of the flowers have opened bracts. NAA is available commercially from scientific supply companies as Kling-Tite 800 (24.5% NAA) and Thompson Fruit-Fix (19.6% NAA).

As shown in table 3 a marketable bougainvillea plant can be obtained in 11 to 15 weeks when the growing techniques described above are used. This compared favorably with azaleas which requires 20 to 25 weeks from the last pinch to obtain a marketable flowering plant. An additional 20 to 25 weeks is necessary to grow an azalea plant large enough to flower in a 4 inch pot. The most popular flowering pot plant, the chrysanthemum, requires 12 to 15 weeks from sticking of cuttings to flowering.

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