

Influencing Growth of DWARF EUGENIA

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Experiments showed that growth of the dwarf Eugenia plants was influenced by the soil mixture and that the use of GA₃ was actually detrimental, considering the type of growth obtained. Whenever these plants are propagated and cultivated, a highly organic soil mixture should be used.

Some extremely dwarfed Eugenia cultivars have been developed at UCLA by Dr. V. Stoutemyer. Although none has been released yet for commercial propagation, plans call for making several of these cultivars available for this purpose as soon as necessary authorization is secured.

The slow growth of these cultivars may discourage propagation and cultivation by nursery people. Therefore, studies were initiated to determine whether cultural treatments would result in their rapid growth. The two factors studied were soil mixture and use of gibberellic acid.

Soil mixture greatly influenced growth in these studies. Best performance resulted when a highly

organic soil was used. The organic mix consisted of 40 percent peat moss, 40 percent redwood sawdust, and 20 percent sand. The nursery mix was 33 percent sandy loam and 67 percent redwood sawdust. The South Coast Field Station mix had proportionately more soil and less organic matter than the nursery mix.

Two experiments were conducted using gibberellic acid. Initially, plants were sprayed monthly to runoff with a solution containing 50 parts per million (ppm) of GA₃.

Treatment with gibberellic acid at 50 ppm resulted in unusually elongated internodes and reduced stem thickness. Thus, the treated plants were slightly taller but lighter than the control plants.

A second experiment tested a series of gibberellic acid dosages on the growth of the same cultivars. In this test, using only the organic soil mixture, none of the GA₃ treatments resulted in improved growth.

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Soil Mix	Selection 75		Selection 82		Gibberellic Acid	Selection 75		Selection 82		GA ₃ Concentration	Plant Height	
	Plant Height (cm)	Dry Weight (g)	Plant Height (cm)	Dry Weight (g)		Plant Height (cm)	Dry Weight (g)	Plant Height (cm)	Dry Weight (g)		Selection 75 (cm)	Selection 82 (cm)
Organic	10.4	6.8	6.2	3.9	Not used	8.8	6.6	4.4	4.4	0	14.5	12.2
Nursery Mix	8.8	5.6	5.9	3.6	Used	9.8	4.7	6.5	2.9	5	12.1	11.3
SCFS	8.7	4.2	4.4	3.5						10	13.3	10.5
										20	14.0	11.1
										50	12.2	10.2