

Species	% of cuttings rooting	Weeks to market	Desirability	Product	Comments
<i>Plec. ciliatus A</i>	95	11	still being tested	baskets	
<i>Plec. ciliatusn B</i>	90	20	excellent	baskets	
<i>Plec. ecklonii</i>	99	12	excellent	pots	garden shrubs
<i>Plec. hadiensis</i>	high	16	poor	pots	needs lot of pinching
<i>Plec. neochilus</i>	99	11	good	baskets	sun or shade tolerant
<i>Plec. oertendahlii</i>	100	16	good	baskets	silver veining in leaves
<i>Plec. saccatus</i>	90	15	excellent	pots	large flowers
<i>Plec. verticillatus</i>	high	12	poor	basket	pretty but unpopular
<i>Plec. zuluensis</i>	good	>16	poor	pots	poor growth

Nine species were used during the first year to perfect *Plectranthus* species propagation methods. (Table 1)

## Assessment and Development of *Plectranthus* Species for Ornamental Horticulture

Harold Koopowitz

The genus *Plectranthus* (family Lamiaceae) contains many species and cultivars that have considerable horticultural potential as container plants, ground covers and tender shrubs. This is a project to assess and develop various selections from the African members of the genus as a new product for ornamental horticulture and the California garden. There are three phases to the project:

- Assessment and selection of various cultivars for appropriate use
- Ploidy conversion of the best selections
- Assessment of the ornamental potential of new cultivars that were produced last year

During the first year we perfected our propagation methods using nine different selections (Table 1). We selected nine species and tried them out to see how easy they were to manipulate, to produce cuttings, how long

it took to produce a marketable product from tip cuttings, how well the product appealed to the consumer and what was involved in producing a finished product that looked good. The UCI Arboretum derives most of its operating funds from plant sales. There are thus many opportunities to assess the plants' sales appeal.

One of the selections that we rated as poor, *P. zaluensis*, has actually performed better since this study was conducted and is now in production again. Mr. Van Zyl had no problems propagating them but the nursery staff originally did have problems. These have been overcome by changing growing conditions and this plant has been cultured for sales again and is now proving to be excellent. Other selections such as *P. verticillatus* were not popular with the buying public although everyone at the arboretum feels that it has enormous potential and makes a very pretty pot plant. The straggly growth habit of *P. hadiensis* seems to act against its marketability.

All of the clones now seem to be exceptionally easy to propagate as long as softwood material is available. We have noticed that there is a period between flowering and spring growth when soft wood is sparse. However, between March and October we have found that it is easy to get excessive amounts of material for propagation. No rooting hormones are necessary. Once

roots appear cuttings are fed every two weeks with 20:20:20. For several clones we found that the cuttings performed best when rooted directly into the pots or baskets in which they were to be marketed. Several clones needed to be pinched repeatedly to make a bushy product with large numbers of inflorescences. Effects of growth regulators on those sections needs to attempted in the fixture.

The main thrust of our research was the hybridizing program and this was where major effort was directed. We were able to utilize two undergraduate volunteers to help with the program. Each flower in this genus can only produce a maximum of four seeds. As most of the crosses were between species and previous experience had produced a low yield, we ended up hand pollinating 7,431 flowers which has given us a yield of 208 surviving plants.

In order to get sufficient numbers of plants for hybridizing, 100 plants of each selection were produced

in July and August, 1995. These came into flower during October and November, 1995 when pollination activities could take place. Each inflorescence was used to make only one type of cross and was labeled with paper tags.

Seed from each inflorescence was collected and bagged separately during the months of January through early February, 1996, when they were also cleaned in preparation for seed sowing. Seed collected from a single inflorescence represented a single cross and was sown together in a mother pot. Seeds were planted and maintained at the UCI Arboretum Greenhouse. In mid April, 1996, seedlings were pricked out into individual square 6" pots. At this date (June 4, 1996), a few seedlings have already flowered and others are starting to show spikes.

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