

Hawaii Cooperative Extension Service

HORTICULTURE

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U. S. Department of Agriculture Cooperating



DIGEST

Department of Horticulture
University of Hawaii at Manoa

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MAKE WIVES INTO WIDOWS

Are you so intent on making a success that you put aside all other considerations, and are leading your wife to widowhood without even knowing it? If you are not yet a candidate for membership in the Coronary Club, you can become one very soon, if you assume the role of the following characters.

The Workhorse: This part is a snap; all you have to do is try to get to the top of the heap in the shortest possible time, and put your work ahead of all personal considerations. Go to the office evenings, Saturdays, Sundays and holidays. Or at least take home some work with you; it's a good opportunity to review all the worries of your working day. It's also wise to stay up late working every night, because too much sleep may dull your senses.

Never say "no" to a request—no matter how "beat" you are—and don't delegate responsibility. You're the only one who can be counted on, so carry the ball yourself at all times. It's also a poor policy to take a vacation of more than a day or two.

The Weekend Athlete: When you assume this role, you'll be joining thousands of others who are on their way to "the happy hunting grounds" in a hurry! It's far easier to kill yourself having a

good time than you realize—especially if you've spent all week doing nonstrenuous work. Tempt the fates by lifting weights, running a mile or two before Sunday breakfast, or by indulging in a fast game of basketball or handball with the kids. And if you feel that lack of supervised exercise is the reason for that spare tire around your middle, join a three-hour calisthenics class at a local gym—but be sure to indulge only on the weekends.

The Jet-Setter: When you travel, make sure you wear yourself to a frazzle. One good way is to get up at the crack of dawn, catch a plane to your destination, work all day, then late at night ject back home—to save the few bucks a hotel or motel would cost you. If you drive on business or pleasure trips, instead of flying, drive all day and night to see your associates or your friends, then head back immediately to the office or home.

If you sometimes feel that you can't catch up with yourself and that you're out of tune with your surroundings, you're probably a victim of "Jet Age Fatigue," a very common occurrence. But don't bother listening to medical opinions saying that jet travel which crosses back and forth over time zones upsets the body's metabolism. And don't follow the advice of the American Hotel & Motel Association that adequate rest and comfortable lodgings are important to your health during a long trip. after all, it's your life, and what do they know anyhow?

The Meal Misser: Here's another easy ticket to the Coronary Club: just forget about your eating habit. A balanced diet at three regular meals is great for kids, but you're a busy grown man. A restful meal is a waste of time for the man-on-the-go. You'd probably get more done by working at your desk or cramming an extra conference into the meal hour. Missing meals has a way of making you hungry between regular meal

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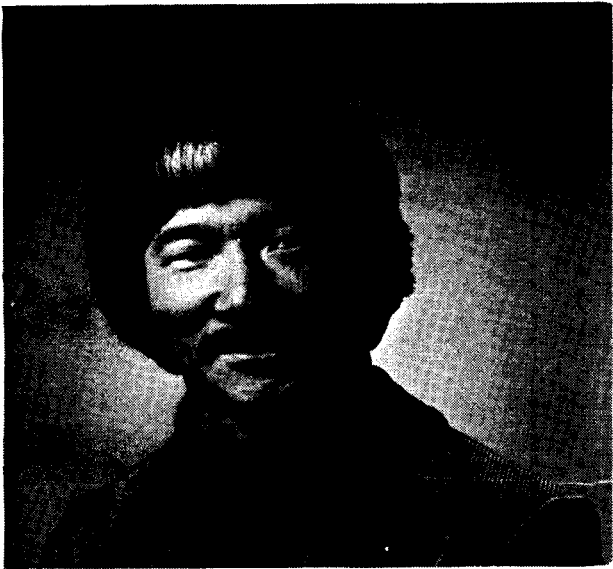
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times, so keep plenty of sweets around to nibble on during the day. In the process of feeding your frustrations, you may eat yourself into the hospital—and maybe even an early grave!

The "Teacher": When you go on the road, make sure you're the fellow who teaches the other guys a lesson on how to drive. It's really important. After all, the teacher should feel that he alone has the job of protecting the public—and that's a great service. On the highway, he zooms out around the offending driver to sound off, or refuses to dim his lights if the other guy doesn't. He is often a "knight in an older model," for new car owners rarely do this. His common curse is, "I'll teach those dopes!" He's already worked himself into a wreck; the next wreck may be his own car!

If you find yourself falling into any of these five roles, get out your shovel and start digging. The standard size for graves, by the way, is nine feet by 30 inches.

Joseph Arkin
Flower News/Growers Digest
June 27, 1981



**NEW HORTICULTURE DEPARTMENT
CHAIRMAN**

Effective October 1, 1981 the Horticulture Department of the University of Hawaii—Manoa has a new Department Chairman. He is Dr. Les H. Fuchigami, a graduate of Lanai High School. Les returns to Hawaii from Oregon State University, Corvallis, Oregon where he was a faculty member for the last eleven years. While at Oregon State he established an outstanding research program in the area of stress physiology

working primarily with woody ornamental plants. He also received the outstanding teacher of the year award.

Dr. Fuchigami received his B.S. degree in Horticulture from the University of Hawaii and his M.S. and Ph.D. degrees from the University of Minnesota in Plant Pathology and Plant Physiology, respectively.

**A COMPARISON OF THREE POINSETTIA
CULTIVARS AND FIVE MICRONUTRIENT
SOURCES**

Single plants of each of three poinsettia cultivars were potted into 5-inch pots in a medium comprised of equal parts peat and perlite amended with Osmocote 14-14-14, treble superphosphate, and dolomite at the rates of 6, 2, 6 ounces per cubic foot of medium. Four controlled release micronutrient sources were incorporated into the medium prior to planting.

The poinsettia cultivars were Gutbier V-10 (Amy) and Gutbier V-14 (Glory) and R-13, a test release of the Echke Poinsettia firm. The cuttings were planted October 4, 1980, lighted until October 10 and soft-pinned October 8. No growth retardants were applied.

The micronutrient sources were Peters FTE 503, MicroMax, Emisgran, Perk, and Peters Soluble Trace Element Mix. The first four were incorporated at the rates of 0.25, 1.1, 4.1, and 3.3 ounces per cubic foot respectively while the soluble source was supplied as a soil drench at the rate of 0.15 ounce/gallon of water, 8 fl. oz. per pot, on October 15 and November 15.

Data taken on December 15, 1980 were height, bract diameter, number of breaks bearing red bracts, and number of cyathia showing pollen (a maturity rating). Leaf samples were collected at the same time for analysis of the mineral content. The analyses were performed by the University of Hawaii Service Center using micro-kjedldahl for nitrogen, and a x-ray quantometer for all other elements.

Results of the tissue analyses appear in Tables 1 and 2 and of the growth data in Table 3.

Briefly, the data reveal that:

1. No source of micronutrient, at the rate provided, significantly affected plant height.
2. Average bract diameter was about the same with cultivar for all micronutrient fertilizer sources.
3. The average number of breaks per plant was greatest (7.4 over all cultivars) with the most soluble micronutrient source (STEM) and

- lowest (6.5) with the least soluble source (FTE 503).
- Plants which received MicroMax or Perk were generally more advanced in their floral development than those receiving other micronutrient sources.
 - The influence of micronutrient sources on macronutrient uptake showed only small differences. The most noticeable of these occurred with the soluble source which was applied but twice during the crop cycle.
 - Among the micronutrients, manganese content showed the greatest variation and this caused the Fe/Mn ratio to vary from 1:1 to 2:1. The levels, however, were higher than in previous literature reports (Criley and Parvin). According to Ecke and Matkin, a wide range seems acceptable for poinsettias. Interestingly, the lightest green cultivar, V-10, had the highest manganese content and the lowest Fe/Mn ratio, a pattern similar to the white poinsettia cultivars in which the foliage is not as dark green as for red cultivars.
 - Although the fritted micronutrient source had generally the highest percentages of most of the elements (Table 4), there were high

Table 1. Average elemental content of leaf tissue of three poinsettia cultivars fertilized with liquid feed (180 ppm each N and K from $\text{Ca}(\text{NO}_3)_2$ and KNO_3) and preplant incorporation of slow release minor elements (Micromax, Perk, Emisgran, Peters FTE503) or soluble minor elements (Peters S.T.E.M.).

Element	Cultivar		
	Gutvier V-10	Gutbier V-14	Eckespoint R-13
N (%)	3.78	3.88	3.96
P (%)	0.26	0.31	0.26
K (%)	2.29	3.10	3.04
Ca (%)	1.31	1.26	0.53
Mg (%)	0.48	0.51	0.28
S (%)	0.25	0.25	0.21
Mn (ppm)	152.5	91.2	48.4
Fe (ppm)	146.3	137.6	160.3
Cu (ppm)	14.0	10.9	13.4
Zn (ppm)	48.7	55.9	38.6
B (ppm)	45.7	39.0	35.8

Table 2. Average elemental content of leaf tissue of poinsettias (averaged over 3 cultivars) fertilized with 5 sources of minor elements and daily liquid feed (180 ppm each of N and K from $\text{Ca}(\text{NO}_3)_2$ and KNO_3).

Element	Fertilizer Source				
	Peters S.T.E.M.	Peters F.T.E.503	Perk	Micromax	Emisgran
N (%)	3.77	3.89	4.04	3.84	3.84
P (%)	0.25	0.25	0.28	0.30	0.28
K (%)	2.69	2.83	2.86	2.77	2.89
Ca (%)	0.95	1.07	1.04	1.02	1.10
Mg (%)	0.39	0.42	0.42	0.44	0.46
S (%)	0.23	0.22	0.24	0.24	0.24
Mn (ppm)	129.7	69.0	105.7	84.1	98.3
Fe (ppm)	149.0	147.2	151.0	147.7	145.5
Cu (ppm)	19.5	12.0	11.1	10.8	10.3
Zn (ppm)	56.3	35.8	51.3	43.2	52.0
B (ppm)	62.8	39.0	32.0	33.0	34.0

Table 3. Effects of micronutrient sources on growth and flowering of 3 poinsettia cultivars.

Cultivar	Fertilizer Sources					
	Emisgran	FTE-503	Micromax	Perk	STEM	Mean
HEIGHT (cm)						
V-10	25.6	25.4	30.7	30.2	26.3	27.6c
R-13	58.7	58.1	55.0	55.1	60.0	57.4a
V-14	47.7	46.4	38.8	49.7	38.6	44.2b
mean	44.0x	43.3x	41.5x	45.0x	41.6x	
AVERAGE BRACT DIAMETER (cm)						
V-10	25.1	23.8	26.6	25.9	25.1	25.3a
R-13	28.9	31.2	31.3	28.3	28.3	29.6b
V-14	33.9	34.2	30.7	32.7	29.0	32.1a
mean	29.3x	29.7x	29.6x	28.9x	27.5y	
AVERAGE NO. BREAKS PER PLANT						
V-10	9.5	9.8	10.1	10.1	11.1	10.1a
R-13	4.2	3.5	3.9	4.4	4.2	4.0c
V-14	6.6	6.3	7.9	6.9	6.8	6.9b
mean	6.8yx	6.5z	7.3x	7.1xy	7.4x	
MATURITY INDEX						
V-10	4.3	3.9	5.4	5.0	4.7	4.6a
R-13	.6	1.1	1.2	.9	.5	.9b
V-14	.6	.4	.6	.5	.1	.4c
mean	1.8y	1.8y	2.4x	2.2xy	1.8y	

Table 4. Manufacturer's analysis of minor element fertilizers (as percent of the element in the dry formulation).

	Peters STEM	Peters FTE	Perk	Micromax	Emisgran
Mn	8.15	7.5	2.29	2.5	0.5
Fe	7.50	18.0	3.67	12.0	2.0
Cu	3.20	3.0	0.23	0.5	0.3
Zn	4.50	7.0	0.69	1.0	1.0
B	1.45	3.0	0.023	0.1	0.02
Mo	0.046	0.2		0.005	0.0006
S	15.0		4.50	15.0	1.0

amounts in the soluble form which tended to be reflected in both the manganese and boron levels of the plant tissue.

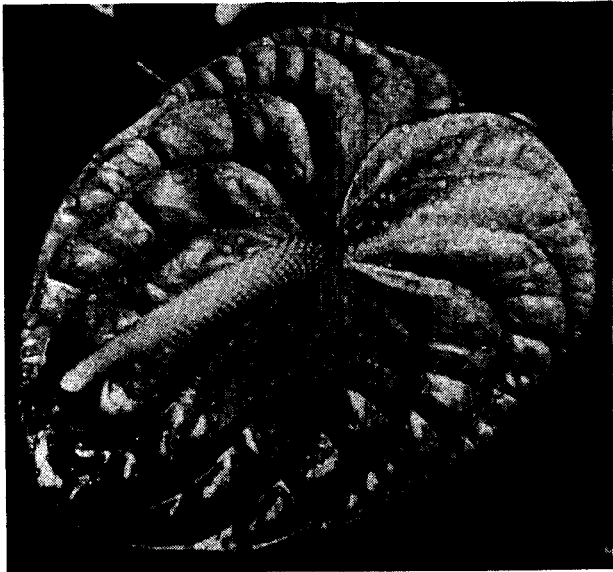
Considering both the growth data and tissue mineral content, it would appear that MicroMax gave the most desirable result. Both Emisgran and Perk would be acceptable, but the FTE 503, at the level used, and the STEM at the frequency

used, were less desirable.

Literature

Criley, R.A. and P.E. Parvin. 1978. *Effect of nutrient regimes and minor elements on the growth and tissue composition of poinsettia cultivars in soilless mediums*. H.A.E.S. Dept. Paper No. 53.

Richard A. Criley
Horticulturist



'PARADISE PINK' ANTHURIUM

An attractive anthurium seedling selection with dark pink to light red spathe has been named Paradise Pink and is being increased by aseptic culture for release to the anthurium industry of Hawaii. This new cultivar originated as an offspring of the cross between 'DeWeese' (white) and 'Marian Seefurth' (pink). The seedling was initially selected in December, 1970, and designated UH383. After observation and evaluation for a few years at the University of Hawaii at Manoa, it was advance tested at the Branch Experiment Station at Waiakea, as well as with cooperating growers at Pahoa, Waiakea and Mountain View. The excellent performance of UH383 at all locations has warranted its multiplication, naming and release.

Paradise Pink produces a large spathe with slightly overlapping basal lobes. The reclining spadix changes in color from yellow to white as it matures, and is resistant to anthracnose. The internodes are short—a desirable characteristic. It produces about 6 flowers per plant per year.

The description of this new cultivar follows:

<i>Spathe</i>	
Size and Shape	7¼ inches long, 6¼ inches wide; broad heart-shape; basal lobes not fused, bare-

ly touching to slightly overlapping.	
Color	Dark pink to light red—Horticultural Color Chart 50A-52A.
Position	About 60 degrees from flower stem axis.
<i>Spadix</i>	
Size and Shape	4 inches long, ½ inch thick; reclining.
Color	Yellow changing to white with maturity.
Anthracnose	Resistant.
<i>Flower Stem</i>	
	24 inches long, 5/16 inch thick; sturdy and erect.
<i>Yield</i>	
	6.0 flowers per plant per year.
<i>Sucker Production</i>	Poor.
<i>Internode Length</i>	Short.

H. Kamemoto, J. Kunisaki,
M. Aragaki and T. Higaki

SCUTTELLARIA COSTA-RICANA—A NEW POT PLANT INTRODUCTION

Scutellaria costa-ricana, Scarlet Skullcap, belongs to the Mint family (Labiatae) and is related to *Salvia*, *Physostegia*, and *Coleus*. It was originally described by the botanist, H. Wendland, in 1857 from high elevation collections made in Costa Rica. A close relative is *S. mociana*, which is described in Exotica.

S. costa-ricana is a herbaceous shrub which will grow to a height of about 3 feet. Its stems are purplish-brown, square, with opposite dark-green leaves. The leaves are ovate, with crenately-toothed margins. The flowers are borne on erect terminal spikes, each flower about 2 inches long, tubular and scarlet-red with an orange-yellow lip. The individual flowers last only a week before fading but the life of the cluster is about 3 weeks.

Propagation from one- and two-node cuttings takes about 10 days under mist. Several cuttings are planted per pot (3 per 4" pot, to 6-7 per 6" pot). The potting medium can be a 50:50 peat-perlite mix or similar medium. Incorporate

lime at the rate of about 6-7 lb/yd, Osmocite 14-14-14 at 5-7 lb/yd, and treble superphosphate at 2 lb/yd. Minor elements should also be incorporated in soilless mediums. Pinch new growth about 4-5 weeks after transplanting the cuttings to induce good branching. Growth retardants are needed for compact well-proportioned plants and should be applied as new growth begins to elongate following the pinch. Depending on the season, flowering occurs in 10 to 13 weeks when the day/night temperature regime is 20-22°C/18°C.

Both Cycocel and Arest were effective retardants, with drenches slightly more effective than sprays. Cycocel drenches should provide about 0.5 grams active ingredient per pot in enough water to saturate the medium. As a single spray, Cycocel was effective at 3000 ppm although a repeat spray about 4 weeks later could be applied. Arest has been used as a drench at 0.5 milligrams/5 inch pot or as a 25 ppm spray.

The major insect problems observed were whitefly and spidermite. The usual control methods have been effective without phytotoxicity.

This plant has been released to the Hawaii Association of Nurserymen.

Richard A. Criley
Horticulturist

NURSERY NOTES

Business Computers

To avoid the dilemma of under- and over-production, there should be a complete set of records for every kind and variety, and their planting dates, as well as sales figures of each. This may be a nearly impossible task with manual records, but it is a snap with a small business computer that has the capability of storing information. Daily entries from production records and sales slips can be taken care of in a few minutes' time if a complete program is outlined for recording the desired information.

Florist Review
Vol. 168, No. 4356
May 28, 1981

Herbicide Research with East Texas Roses, 1977-79

Oryzalin (Surflan) and napropamide (Devrinol) each at 4 pounds per acre (active ingredient) and a combination of simazine (Princep)

plus Surflan each at 2 pounds per acre (active ingredient) effectively controlled a broad spectrum of both grass and broadleaf weed species in Rosa multiflora (cv "Brook 56") and the multiflora/"Blanche Mallerin" cultivar combination under commercial rose bush production. Four pounds per acre Surflan caused leaf chlorosis (yellowing) on multiflora understock when applied after budding in commercial fields in April. Glyphosate (Roundup) resulted in a distorted growth of cultivars 1 year after its application as a spot treatment to control grass weed species in budded multiflora understock.

Author's Summary
(Paterson, D.R., R.M. Menges,
D.R. Earhart and M.C. Fuqua.
The Texas Agriculture Experiment
Station, PR-3752, Nov. 1980).

Greenhouse Depreciation

Senator Charles E. Grassley (R-Iowa) has included greenhouses in his amendment to the IRS Code which treats "single purpose agricultural and horticultural structures" as Section 1245 property (equipment) for purposes of recapture of depreciation. This language is consistent with language in the Code dealing with investment tax credit for greenhouses, as well as underscoring SAF's testimony last week before the IRS. We are now attempting to get Representative L.A. (Skip) Bafalis (R-Fla.) to introduce a similar amendment in the Ways and Means Committee, so when the bill goes to conference, it should receive less resistance. Because amendments can be stricken at any time during the legislative process, this is still no guarantee, but, combined with the IRS's favorable reaction to last week's testimony, the future looks very good.

Reprinted from SAF-US Grower

DIRECTORY OF ORNAMENTAL COMMODITY GROUPS

With the large number of changes in the leadership of the various ornamental commodity groups in the State, it is necessary to update the directory periodically. This is being done to provide you with the most current information available.

Aloha Arborist Association

President: Henry Otani
P.O. Box 10026
Honolulu, HI 96816

Anthurium Association of Hawaii, Inc.

President: Tracy Lauder
P.O. Box 333
Mountainview, HI 96771

Hawaii Protea Cooperative

President: Ed Holroyde
P.O. Box 68
Kula, HI 96790

Big Island Chapter of HAN

President: Tom Matsumoto
P.O. Box 73
Hilo, HI 96720

Hawaii Protea Growers Association

President: Carver Wilson
P.O. Box 354
Kula, HI 96790

Big Island Dendrobium Growers Association

President: Yoshio Watanabe
875 Komohana Street
Hilo, HI 96720

Hawaii Turfgrass Association

President: Jim McMurtry
P.O. Box 1343
Honolulu, HI 96807

Florist Association of Hawaii

President: Shirley Thompson
2083 Kuhio Avenue
Honolulu, HI 96815

Hawaii Vanda Association

President: Haruo Taira
Pahoa, HI 96778

Garden Island Orchid Society

President: Roland Nitta
P.O. Box 194
Kekaha, HI 96752

Hilo Florist & Shipper's Association

President: Mary Hernlund
P.O. Box 4396
Hilo, HI 96720

Hawaii Anthurium Industry Association

President: Daniel Hata
Kurtistown, HI 96760

Hilo Orchid Society

President: George Fukumura
277 Pohakulani Street
Hilo, HI 96720

Hawaii Association of Nurserymen

President: Toshio Sugita
P.O. Box 293
Honolulu, HI 96809

Maui Association of Nurserymen

President: Christopher Curtis
RR1-Box 675
Haiku, HI 96708

**Hawaii Chapter of the American Society of
Landscape Architects**

President: Tom Fake
233 Merchant Street
c/o ALA
Honolulu, HI 96813

Maui Flower Growers Association

President: Craig Rasmussen
357 Ihe Street
Kula, HI 96790

Hawaii Dendrobium Orchid Growers Association

President: Mordecai Hudson
P.O. Box 355
Pearl City, HI 96782

Oahu Nursery Growers Association

President: Kenneth Y. Ibara
P.O. Box 293
Honolulu, HI 96809

Hawaii Landscape Contractors Association

President: Greg Boyer
47-827 Kamakoi Road
Kaneohe, HI 96744

Kauai Anthurium Association

President: Gilbert Carvalho
P.O. Box 122
Lawai, HI 96765

Hawaii Professional Guild of Gardeners

President: Susan Mulkern
P.O. Box 26162
Honolulu, HI 96825

Kauai Association of Nurserymen

President: Lelan Nishek
P.O. Box 3013
Lihue, HI 96766

FOOD FOR THOUGHT

The only freedom deserving the name is that of pursuing our own good in our own way, so long as we do not attempt to deprive others of theirs.

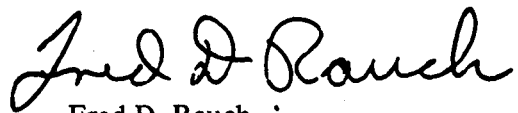
John Stuart Mill
(1806-73)

In every work of genius we recognize our own rejected thoughts.

Ralph Waldo Emerson
(1803-82)

..... why are good habits easier to give up than bad ones?

NOTE: The use of trade names is for the convenience of readers only and does not constitute an endorsement of these products by the University of Hawaii, the College of Tropical Agriculture and Human Resources, the Hawaii Cooperative Extension Service, and their employees.



Fred D. Rauch
Extension Specialist in Horticulture