FOLIAGE NOTES ON TI

In the course of conducting foliage plant research we make observations or run mini experiments. Sometimes there is inadequate data for a major report, thus, here is a pot-pourri of notes.

Dwarf Ti 'Miss Hawaii' was treated with various chemicals to stimulate axillary shoot production after the terminal was removed as a cutting. After 3 months, the synthetic cytokinin, PBA, stimulated more breaks than did ethephon and the latter retarded elongation.

Chemical	Rate (ppm)	Ave. no. elongating breaks/plant	Ave. length of breaks (cm)
PBA	125	2.2	6.6
PBA	250	2.5	7.2
PBA	500	2.5	7.1
ethephon	125	2.0	4.0
ethephon	250	1.8	3.1
ethephon	500	1.5	1.2
Control		2.2	6.8

Dwarf Ti 'Miss Hawaii' was treated monthly with a gibberellin spray (10 ppm) with the idea that new stem growth would be somewhat elongated and more stem piece cuttings could be made. After 3 months (night temperature of 20°C, daylight for 9 hours) the treated plants averaged one more leaf and 0.7 cm stem than the non-treated controls (13.4 vs 12.2 leaves; 6.9 vs 6.2 cm) but the number of leaves per cm of stem was the same. This suggested that the rate of growth was increased on this dwarf cultivar but not elongation. The duration of the trial was too brief and the gibberellin level perhaps too low to draw conclusions. The red color of new leaves was not affected by GA treatment nor by the short day or cool night temperature. Two plants of 24 flowered out of season, probably as a result of the short daylengths as flowering normally occurs in the winter.

Dwarf Ti 'Miss Hawaii' were grown in the UH mix (1:1 volcanite-woodshavings) with and without the incorporation of IBDU nitrogen fertilizer (31–0–0) to provide 1g N/pot and under full, medium, and low light levels (7600, 4400, 2400 ft–c). Plants under the highest light were the most vigorous with the best color. There was a positive effect of nitrogen on growth but no differences in leaf color were noted.

Light level	No. new leaves at 8 wk.		No. new leaves at 24 wk.		Increased stem length (cm)	
	0 N	1g N	0 N	1g N	0 N	1g N
7600 ft-c	12.2	13.6	39.2	43.0	21.4	23.4
4400 ft-c	11.6	12.0	34.0	35.6	16.7	17.7
2400 ft-c	10.0	9.6	27.8	28.2	12.2	13.1

Dwarf Ti 'Miss Hawaii' was grown in a 1:1:1 soil-peat-perlite mix amended with 5 oz. dolomite/ft^3 and with the addition of different amounts of Scott's slow release fertilizer (24–4–16). Following the potting of tip cuttings into one gallon pots, they were grown under 50% shade. A count of the new leaves was made at 4–week intervals to determine the rate and extent of growth. Observations of leaf color and size were also taken. There were 5 pots per treatment.

Analysis of the data showed that leaf production was not reduced until the fertilization rate equaled or exceeded 10 oz/ft^3. However this was not the complete story as only the 0 and 1 oz/ft^3 treatments had normal sized leaves. From 2 to 12 oz/ft^3, the leaves were reduced in size with 6–12 oz/ft^3 producing stunted growth and noticeable leaf abscission. Leaf drop was most marked 12 oz/ft^3. Leaf color was not appreciably altered.

Amount of 24–4–16 Fertilizer (oz/ft^3)	Average no. leaves			Ave. no. leaves produced/week
	4 wk	8 wk	12 wk	
0	4.4	8.8	14.4	1.2
1	4.2	8.6	13.2	1.1
2	4.0	7.8	12.2	1.0
4	4.4	8.6	13.4	1.1
6	4.2	7.8	12.8	1.1
8	4.6	9.4	15.2	1.3
10	3.2	6.6	10.2	0.9
12	3.6	6.8	10.2	0.9

Cane pieces of a dwarf ti, cv. Miss Hawaii, were harvested and trimmed in 4-inch lengths. The ends were waxed and the cane pieces dusted with Captan fungicide. The cane pieces were stored vertically in plastic bags at 5, 10, 15, and 20°C for 3- and 6- week durations. There were 3 replications of 5 cane pieces each for each treatment.

After storage the wax was trimmed off and the basal third plunged into vermiculite. Rooting and sprouting observations were made after 5 and 10 weeks.

At the 15° and 20°C storage temperatures in both storage durations there was tissue death under the waxed portions of the stem. At 5° and 10°C this effect was not observed. There was no dessication of the cane pieces, probably because of the plastic bag wrapping. However, all of the 5°C cane pieces from both storage periods died shortly after being placed in vermiculite.

Cool-stored cane pieces did not have enlarging buds upon removal from storage as did the 2 warmer treatments. There were a few buds on the 6–week, 10° treatment but not 3 weeks. The

longer time interval did allow for some development and the warmer storage conditions permitted sprout development.

No. buds greater than 5 mm. 10 weeks after storage

Duration/Temp.	10°C	15°C	20°C
3 wk	4.6	4.3	3.5
6 wk	4.1	4.8	6.1

Average Rooting Percentage

Duration/Temp.	10°C	15°C	20°C
3 wk	100	53.3	86.7
6 wk	100	33.3	40.0

Highest rooting percentage was in the 10°C–stored cane pieces. However, about one week longer was required for rooting than for the warmer storage conditions.

In conclusion, cane pieces could be stored at 10°C for periods up to 6 weeks without adversely affecting root or sprout production. The cut ends were waxed prior to being wrapped in a plastic bag. At warmer temperatures rooting was reduced. Sprouting seemed to be enhanced with the longer storage time at 15° and 20°C.

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