Table 3. Influence of slow release fertilizer source and rate on elemental tissue analysis of schefflera grown for 7 months under 3 shade levels.

Treatments	Elemental tissue analysis, dry wt basis N (%)	P (%)	K (%)	Ca (%)	Mg (%)	Cu (ppm)	Fe (ppm)	Mn (ppm)	Zn (ppm)
Fertilizer source[z]									
RC 18-6-12	2.11 c[y]	0.11 c	1.27 c	0.94 a	0.64 a	7 a	196 a	359 b	173 b
UF + FK 18-6-12	1.32 a	0.08 b	0.41 a	1.23 b	0.80 b	8 a	231 a	487 c	255 c
UF + SCK 23-4-14	1.56 b	0.05 a	0.71 b	0.95 a	0.60 a	6 a	230 a	273 a	145 a
Fertilizer rate (kg N/ha/yr)									
1350	1.53 a	0.07 a	0.75 a	1.16 b	0.71 a	8 a	196 a	371 a	187 a
2000	1.57 a	0.07 a	0.77 b	1.07 b	0.68 a	6 a	234 a	355 a	188 a
2700	1.90 b	0.09 a	0.87 a	0.89 a	0.63 a	7 a	226 a	394 a	198 a
Shade level (%)									
0	1.67 b	0.07 a	0.78 a	1.09 a	0.71 a	8 a	187 a	393 a	201 b
30	1.54 a	0.08 a	0.79 a	1.07 a	0.68 a	7 a	220 a	363 a	204 b
63	1.78 b	0.09 a	0.82 a	0.94 a	0.65 a	6 a	251 a	363 a	168 a

[z]RC = resin coated (Osmocote); UF + FK = urea formaldehyde with fritted potassium; UF + SCK = urea formaldehyde with sulfur coated potassium.
[y]Mean separation within columns by treatment group by Duncan's multiple range test, 5% level.

due to the low levels found in most treatments. Plant variation may account for the lack of interactions.

Results of this experiment indicate high quality schefflera cannot be grown on UF + FK or UF + SCK at N and, possibly, K rates equivalent to RC fertilizer rates. Based on these data, it is possible UF rates would have to be 50% greater than RC source rates to obtain similar plant quality.

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INDUCING FLOWERING OF SPATHIPHYLLUM FLORIBUNDUM (LINDEN & ANDRE) N.E. BR. WITH GIBBERELLIC ACID (GA_3)[1]

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Abstract. **One-year-old** Spathiphyllum floribundum **growing in 10 cm pots were sprayed once with GA_3 at 0, 100, 200, or 400 ppm in January 1981 in an attempt to stimulate flowering. All treated plants had at least one open bloom within a mean of 13 weeks from treatment. Mean number of open blooms per plant after 14 weeks from treatment was 0.2, 1.2, 2.0, and 2.2 at 0, 100, 200, and 400 ppm GA_3 respectively. Plants treated with 200 and 400 ppm GA_3 showed a significant increase in the leaf length/width ratio.**

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Spathiphyllum floribundum (Linden & André) N.E. Br., a member of the family *Araceae*, produces a showy inflorescence consisting of a white spathe and spadix. It is not grown commercially as often as other varieties of spathiphyllum because it is relatively slow growing. Two other varieties of *Spathiphyllum* (x Mauna Loa and x

Clevelandii) have been induced to flower using applications of GA_3 (4, 5), along with several other *Araceae* members (1, 2, 3, 6, 7). However, 15% of *Spathiphyllum* x Mauna Loa flowers had distorted spathes or severely curved peduncles while almost 100% of *Spathiphyllum* x Clevelandii flowers were borne on severely curved peduncles. This study was conducted to test the effects of GA_3 on *Spathiphyllum floribundum* flower initiation and development and on leaf development.

Materials and Methods

Six-month-old *Spathiphyllum floribundum* seedlings were potted into 10 cm pots containing a 2 peat:1 pine bark:1 cypress shavings (v/v/v) medium amended with 4.2 kg/m^3 dolomite, 1.8 kg/m^3 Perk (a micronutrient source) and 5.9 kg/m^3 14-14-14 Osmocote. Six months later (January, 1981) plants were sprayed to the point of runoff once with either 0, 100, 200, or 400 mg/l GA^3 in water using Tween 20 at 0.5 ml/l as a wetting agent. There were 20 plants per treatment in a randomized block design in a greenhouse with a temperature range of 18-32°C. Prior to treatment length and width of the last 2 fully developed leaves were measured in order to calculate a length/width (L/W) ratio. The first 2 leaves to expand after GA_3 treatment were also measured and their L/W ratio determined. Number of plants with open flowers and the total number of inflorescences per plant were recorded weekly.

Results and Discussion

After 12 weeks the mean number of open blooms per plant was 0.0, 0.4, 0.6, and 0.5 for the 0, 100, 200, 400 ppm GA_3 treatments respectively (Table 1). At 14, 16, and 18 weeks after treatment, each increase in GA_3 level resulted in a significant increase in the mean number of inflorescences per plant. The experiment was terminated after 18 weeks at which time there was a mean of 0.6, 1.8, 2.4, and 3.4 open blooms per plant at 0, 100, 200, and 400 ppm GA_3, respectively.

Table 1. Percentage of *Spathiphyllum floribundum* plants with at least 1 open inflorescence, followed by mean number of open bloom after treatment with 4 different levels of GA_3 in January.[z]

Concn mg/liter	Weeks after treatment			
	12	14	16	18
0	0 (0.0a)[y]	20 (0.2a)	40 (0.4a)	60 (0.6a)
100	40 (0.4b)	90 (1.0b)	100 (1.7b)	100 (1.8b)
200	60 (0.6b)	100 (1.6c)	100 (2.2c)	100 (2.4c)
400	50 (0.5b)	100 (1.8d)	100 (2.8d)	100 (3.4d)

[z]Plants in 10 cm pots with 20 reps per treatment.
[y]Mean separation within columns by Duncan's multiple range test, 5% level.

Mean leaf L/W ratio of *Spathiphyllum floribundum* was between 1.9 and 2.0 for untreated leaves (Table 2). The first leaf to expand following treatment with 200 or 400 ppm GA_3 had a significantly larger L/W ratio than either the control of 100 ppm treatment. All the second leaves produced in treatments which received GA_3 had mean L/W ratios significantly greater than the controls.

Table 2. Effect of 4 different levels of GA_3 on leaf length/width ratio of *Spathiphyllum floribundum*.

Concn mg/liter	Leaf number (youngest → oldest)			
	I[z]	II[z]	III[y]	IV[y]
0	1.9a[x]	1.9a	1.9a	2.0ab
100	1.9a	2.0a	2.0a	2.3c
200	1.9a	2.0a	2.0ab	2.4c
400	1.9a	2.0a	2.1b	2.4c

[z]Produced before GA_3 application.
[y]Produced after GA_3 application.
[x]20 reps per treatment with mean separation by Duncan's multiple range test, 5% level.

Data from this study show that GA_3 readily induces flowering in *Spathiphyllum floribundum.* Flowers appeared normal and lacked distortion of the spathe or curvature of the peduncle which occurred in previous studies with other varieties (4, 5). In this regard *Spathiphyllum floribundum* may be valuable for use in breeding new varieties of Spathiphyllum which respond to GA_3 without floral distortions. The increase in leaf L/W ratio, although statistically significant, did not greatly alter the plants' overall appearance.

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