Dieffenbachias to Know and Grow

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Additional index word. foliage plant.

Abstract. Terminal cuttings of 17 dieffenbachia cultivars rooted under mist in 15-cm containers were grown to maturity at which time the number of basal shoots per plant was counted. Five cultivars had no basal shoots, 7 produced from 1 to 4 shoots, and 5 produced more than 4 shoots. A second evaluation included 26 dieffenbachia cultivars finished in 15- or 20-cm pots from commercial nurseries. Leaf lamina length and ratio of lamina length to width were determined. The lamina length to width ratio is a good indicator of the leaf shape. A ratio of less than 2 to 2.9 was classified as wide, a ratio of 3 or more was regarded as intermediate, and a ratio of more than 3 was considered narrow. Of the leaves examined from 26 cultivars and species, 5 were wide, 15 were intermediate and 6 were narrow. The remainder of the paper is dedicated to descriptions of 34 cultivars of dieffenbachia, including plants from the previously mentioned evaluations plus some additional plants obtained from commercial growers.

A member of the aroid family (Araceae), the genus Dieffenbachia is composed of about 30 species of broad-leaved, upright, herbaceous plants indigenous to South and Central America (Bailey et al., 1976). Most of the species have been evaluated by plant collectors and commercial nurseries for their value as ornamental pot plants. Although a few species, such as D. amoena and D. maculata (D. picta) were grown commercially in large numbers as recently as the late 1970s, they are difficult to find today except in conservatories and private collections.

Dieffenbachias are among the five most popular interior foliage plants produced and sold in the United States. A Florida Department of Agriculture, Division of Marketing report on 1991 foliage plant production in Florida indicates dieffenbachias were 7% of the product mix of the nurseries surveyed (Sheehan, 1992). Most modern dieffenbachias are either hybrids resulting from plant breeding or sports from plants which spontaneously developed in cultivation. Popular dieffenbachias of this decade are generally highly variegated, have leaves with short petioles, and in most cases produce basal shoots freely, unlike the popular single-stem dieffenbachias of 20 years ago and earlier.

Dieffenbachias are most frequently used as specimen plants for decorating homes and other indoor areas. Plants in 7- to 20-cm pot sizes are commonly used on tables, desks and counters while plants set at floor level are usually in 20-cm diameter pots and larger. Interior scapers occasionally plant dieffenbachias in mass to obtain desired patterns of color and texture in large spaces indoors. Small dieffenbachia plants, usually 10-cm or less, are useful in combination planters, such as dish gardens.

The primary purpose of this article is to describe visual characteristics of most current commercial dieffenbachia cultivars. Two popular books on tropical ornamental plant material, Exotica III (Graf, 1968) and Tropica (Graf, 1978), do not reflect the cultivars of dieffenbachia which were popular when these books were published.
A second reason for developing this article was to document some of the changes in the dieffenbachia product mix which have occurred during the past 17 years. New plants are adopted by the nursery industry and others are dropped from cultivation with little documentation of their existence or reason for their failure as commercial cultivars. New plants are developed through hybridization by breeders and growers find sports in cultivation that are worthy of introduction. The breeding program at the University of Florida's Central Florida Research and Education Center in Apopka, Florida developed 5 cultivars: 'Triumph' (Henny et al., 1986), ‘Tropic Star’ (Henny et al., 1988), ‘Victory’ (Henny et al., 1991), 'Starry Nights' (Henny et al., 1991), and 'Star White' (Henny et al., 1992), listed in order of their release. Technical information on techniques of hybridizing dieffenbachia and inheritance of traits has also been provided through this breeding program (Henny, 1980; Henny, 1986b; Henny and Rasmussen, 1980; Henny and Rasmussen, 1982).

Edwin J. Frazer from Sunki Pty. Ltd., Kenmore, Australia developed several of the patented cultivars now offered through Twyford Plant Laboratories, Plymouth, Florida including: 'Paradise' (6854), 'Tahiti' (6855), 'Torch' (6856), 'Hilo' (6858), 'Hula' (6871), 'Bali Hai' (6872), 'Aloha' (6873), 'Hybrida Maui' (7010), and 'Golden Sunset' (7317), listed in chronological order of the patent dates (Anonymous, 1990). 'Tahiti', 'Torch', 'Hula', 'Aloha', 'Hybrid Maui' and several of his other cultivars were trialed on a limited commercial scale and withdrawn from production due to some flaw or other limitations.

The first statewide ornamental plant locator was published in 1975, and was called The Florida Foliage Buyer's Guide (Anonymous, 1975). This guide included only 7 species or cultivars of dieffenbachia listed by wholesale nurseries. In 1983 the guide was renamed Florida Foliage Locator. In 1992 it included listings for 33 different dieffenbachia (Reisch, 1992). Of the 7 cultivars listed in 1975, only Dieffenbachia amoena 'Tropic Snow' and D. 'Bausei' were listed in the current one. Those plants which were dropped include: Dieffenbachia amoena, D. maculata cultivars: 'Exotica', 'Golden Snow' and 'Perfection' ('Exotica perfection'), and 'Rudolph Roehrs'. Others which have been introduced and then dropped during the period between 1976 and 1992 include: Dieffenbachia amoena 'Golden Beauty' and D. maculata cultivars: 'Angustior Lancifolia', 'Candida', 'Golden Exotica', 'Marianne', 'Priscilla', 'Sunview', 'Superba' ('Roehrs Superb'), and 'Tropic Dawn', and D. 'Aurora'. Such a transition of products over this 17-year period represents tremendous change.

**Materials and Methods**

Four uniform terminal shoot cuttings of 17 cultivars were rooted under mist in a greenhouse shaded to provide 1200 to 1800 foot candles. The cuttings were stuck in a 15-cm standard pot filled with Vergro Nursery Mix A on 16 Jan 1991 and were fertilized with Osmocote 14-14-14 at the rate of 4.4 g per pot per 3 months (Conover and Poole, 1990). The greenhouse temperatures ranged from 23° to 28°C. After rooting, the plants were moved to a bench without mist and grown in the same greenhouse until 1 June 1991, at which time the number of basal shoots per plant were counted.

During the summer of 1992, 26 species and cultivars of dieffenbachia were obtained from commercial growers and assembled in a shaded greenhouse for one month or longer prior to collection of additional plant measurements. Measurements of leaf lamina length and width which were used to determine the lamina length/width ratio. Plant descriptions were developed from visual inspection.

**Results and Discussion**

The basal shoot measurements from the propagation study are presented in Table 1. The number of basal breaks which developed per cutting was controlled by the cultivar. 'Bali Hai', 'Golden Sunset', 'Tropic Snow', 'Tropic Star' and D. fournieri failed to develop basal shoots, while D. maculata cultivars: 'Nelly', 'Rebecca's Jewel', and 'Sarah' produced over 8 basal shoots per plant.

Data presented in Table 2 provide the reader with information to categorize the plant foliage texture and leaf shape. The leaf shape is strongly reflected in the lamina length/width ratio. Leaves with a ratio of less than 2 were classified broad, leaves with a ratio of 2 to 2.9 were intermediate and those with a ratio of 3 or greater were considered narrow. Using this criterion for these 26 dieffenbachia cultivars, 5 were classified as wide, 15 were intermediate and 6 were narrow.

Several other characteristics of dieffenbachia cultivars are described in the following paragraphs. The author has attempted to indicate the natural branching habit of cultivars when possible (Table 1). The term natural is used to distinguish from the induced branching obtained under experimental conditions when small plants were treated with N-(phenylmethyl)-1H-purin-6-amine (BA) sprays (Henny, 1986a).

### Dieffenbachia Cultivar Descriptions

A series of codes have been used with each cultivar description to provide repetitive information in a concise manner.

#### Table 1. Number of side shoots (basal shoots) produced by seventeen Dieffenbachia species and cultivars propagated from terminal stem cuttings and grown in a shaded greenhouse (16 January 1991 - 1 June 1991).

<table>
<thead>
<tr>
<th>Dieffenbachia cultivar or species</th>
<th>Basal shoots (no.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>amoena 'Tropic Snow'</td>
<td>0.0 a</td>
</tr>
<tr>
<td>'Bali Hai'</td>
<td>0.0 a</td>
</tr>
<tr>
<td>fournieri</td>
<td>0.0 a</td>
</tr>
<tr>
<td>'Golden Sunset'</td>
<td>0.0 a</td>
</tr>
<tr>
<td>'Tropic Star'</td>
<td>0.0 a</td>
</tr>
<tr>
<td>'Star White'</td>
<td>1.2 ab</td>
</tr>
<tr>
<td>'Memoria-Corsii'</td>
<td>1.2 ab</td>
</tr>
<tr>
<td>'Paradise'</td>
<td>2.0 bc</td>
</tr>
<tr>
<td>'Bausei'</td>
<td>2.2 bc</td>
</tr>
<tr>
<td>'Victory'</td>
<td>2.7 bc</td>
</tr>
<tr>
<td>'Hilo'</td>
<td>3.0 c</td>
</tr>
<tr>
<td>amoena 'Tropic Alix'</td>
<td>3.2 cd</td>
</tr>
<tr>
<td>maculata 'Forest'</td>
<td>4.5 de</td>
</tr>
<tr>
<td>'Tiki'</td>
<td>4.7 de</td>
</tr>
<tr>
<td>maculata 'Rebecca's Jewel'</td>
<td>8.5 f</td>
</tr>
<tr>
<td>maculata 'Sarah'</td>
<td>9.3 fg</td>
</tr>
<tr>
<td>maculata 'Nelly'</td>
<td>10.3 g</td>
</tr>
</tbody>
</table>

*Mean separation within columns by Duncan's multiple range test, 5% level.
manner. The first code indicates cultivar availability: rare (R), may have been a commercial cultivar but is now found only in private collections and botanic gardens; available (A), commercially in limited quantity from Florida; common (C), grown in sufficient quantities to be widely available. The propagation code indicates the primary method of commercial propagation currently employed: terminal stem cutting (TSC); tissue-cultured cutting or plug (TC); stem section cuttings (SSC). Plants have been categorized according to the relative size of finished plants which exhibit typical foliage and branching characteristics: small (S); intermediate (I); and large (L), to correspond to the upper end of a potential range of pot sizes due to the high initial cost of propagules.

Dieffenbachia amoena ‘Tropic Alix’™
(‘Morlof’, Patent 5740) (A, TSC, SSC, I, 6-17)

Tropic Alix dieffenbachia, sold occasionally as ‘Alix’, has been relatively slow in reaching some markets because it is grown primarily by a single Florida nursery. Tropic Alix is a sport of Tropic Snow and it occasionally reverts to Tropic Snow in stock beds. It strongly resembles Tropic Snow in all respects except it is shorter that leaves and produces abundant basal breaks and some branches form considerably above the base. These two attributes give Tropic Alix a compact appearance which is retained indoors as basal shoots fill the void left as lower leaves are lost. It has broad, dark green leaves with a greenish yellow center and dark green, irregularly patterned margin and midrib. Leaves of Tropic Alix are about one half the size of Tropic Snow and the petals are short. Since the plant produces abundant shoots, it maintains a compact habit.

Dieffenbachia amoena ‘Tropic Snow’
(Patent 2869) (C, TSC, SSC, L 6-17)

Tropic Snow was patented by Charles Chaplin in 1969 and it later became the most popular of the large-leaved dieffenbachia, a ranking it retains to date. The plant has broad, dark green, slightly glossy leaves with a greenish yellow center, which becomes ivory with age, and green midrib. It usually grows without producing basal shoots and therefore tends to get leggy with age. Tropic Snow and Tropic Alix are propagated commercially from large cuttings harvested primarily from stock beds in the tropical America.

Dieffenbachia amoena ‘Tropic Supreme’ (R, TSC, L 6-14)

Robert Mellen of Melco Nurseries, Inc., Apopka, selected Tropic Supreme from a population of Tropic Snow plants grown from conventional cuttings. This plant is similar to Tropic Snow in stature but has an exceptionally large variegated central panel which remains more yellow gold than ivory. The possibility of tissue cultivating this cultivar is being investigated.

Dieffenbachia ‘Bali Hai’™ (Patent 6872) (A, TC, L, 6-10)

Bali Hai dieffenbachia is a distinctive large-leaved cultivar with very dark green leaves which have a variable pattern of ivory to yellowish green flecks and blotches. The ivory and green colors also occur as a pattern of longitudinal streaks on the midrib and broad petiole which clasps the stem. Bali Hai is popular because of its unique contrast of colors and lustrous leaf surface. Plants propagated from tissue culture have few side shoots.

Dieffenbachia ‘Bausei’ (A, TC, TSC, I, 4-10)

Bausei dieffenbachia is a very old variegated cultivar with intermediate size leaves. It was obtained from a cross between Dieffenbachia maculata and D. weiri about 1870 in the garden of the Royal Society of London at Chiswick (Birdsey, 1951). Bausei leaves are very attractive with a narrow dark green margin and an internal pattern of dark green, yellowish green and ivory spots, blotches and streaks.

Dieffenbachia ‘Dwarf Forest’ (R, TSC, S, 6-8)

Dwarf Forest was selected from a population of mature Forest plants produced from tissue-cultured liners at Grandview Botanicals, Dade City, Florida. The plant had leaf coloration typical of Forest but on a smaller scale. Dwarf Forest will come true from conventional vegetative cuttings.

Dieffenbachia ‘Forest’ (A, TC, I, 6-10)

Forest is a medium size dieffenbachia with leaves trimmed with a fine margin of dark green and colored

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Table 2. Leaf lamina length and length/width ratio of twenty-six Dieffenbachia cultivars grown in a shaded greenhouse.

<table>
<thead>
<tr>
<th>Dieffenbachia cultivar or species</th>
<th>Lamina length (cm)</th>
<th>Lamina length/width</th>
</tr>
</thead>
<tbody>
<tr>
<td>amoena ‘Tropic Snow’</td>
<td>38.7 a*</td>
<td>2.2 j</td>
</tr>
<tr>
<td>‘Memoria-Corsii’</td>
<td>35.5 b</td>
<td>3.4 d</td>
</tr>
<tr>
<td>‘Star White’</td>
<td>34.9 b</td>
<td>2.2 j</td>
</tr>
<tr>
<td>‘Bali Hai’</td>
<td>34.8 b</td>
<td>1.81 m</td>
</tr>
<tr>
<td>‘Golden Sunset’</td>
<td>34.6 b</td>
<td>1.5 m</td>
</tr>
<tr>
<td>fournieri</td>
<td>32.6 c</td>
<td>1.81 m</td>
</tr>
<tr>
<td>maculata ‘Angustior Lancifolia’</td>
<td>32.3 c</td>
<td>5.9 a</td>
</tr>
<tr>
<td>amoena ‘Tropic Alix’</td>
<td>31.3 c</td>
<td>1.81 m</td>
</tr>
<tr>
<td>‘Tiki’</td>
<td>31.3 c</td>
<td>3.1 e</td>
</tr>
<tr>
<td>maculata ‘Angustior Angustifolia’</td>
<td>31.3 c</td>
<td>4.5 c</td>
</tr>
<tr>
<td>‘Hilo’</td>
<td>30.0 cd</td>
<td>2.9 ef</td>
</tr>
<tr>
<td>‘Starry Nights’</td>
<td>28.2 de</td>
<td>2.7 fgh</td>
</tr>
<tr>
<td>‘Tropic Star’</td>
<td>27.0 ef</td>
<td>3.4 d</td>
</tr>
<tr>
<td>‘Victory’</td>
<td>26.0 efg</td>
<td>2.1 jk</td>
</tr>
<tr>
<td>‘Silver’</td>
<td>25.9 efg</td>
<td>2.5 hi</td>
</tr>
<tr>
<td>‘Bausei’</td>
<td>25.3 fg</td>
<td>2.6 gh</td>
</tr>
<tr>
<td>maculata ‘Pearl’</td>
<td>25.1 fgh</td>
<td>2.7 fgh</td>
</tr>
<tr>
<td>‘Forest’</td>
<td>24.8 fgh</td>
<td>2.6 gh</td>
</tr>
<tr>
<td>humilis</td>
<td>24.5 fgh</td>
<td>5.4 b</td>
</tr>
<tr>
<td>maculata ‘Jennmannis’</td>
<td>22.8 hi</td>
<td>2.9 efg</td>
</tr>
<tr>
<td>maculata ‘Sarah’</td>
<td>21.1 jf</td>
<td>2.3 jf</td>
</tr>
<tr>
<td>‘Paradise’</td>
<td>20.4 jk</td>
<td>1.9 jkl</td>
</tr>
<tr>
<td>maculata ‘Perfection Compacta’</td>
<td>20.2 jk</td>
<td>2.2 jk</td>
</tr>
<tr>
<td>‘Triumph’</td>
<td>18.7 jkl</td>
<td>2.1 jkl</td>
</tr>
<tr>
<td>maculata ‘Anne’</td>
<td>17.3 jl</td>
<td>2.1 jk</td>
</tr>
<tr>
<td>maculata ‘Camille’</td>
<td>16.9 jk</td>
<td>2.1 jkl</td>
</tr>
</tbody>
</table>

*Mean separation within columns by Duncan’s multiple range test, 5% level.
internally with variably sectored patterns of greenish yellow with dark green flecks, silvery-green with dark green markings and dark green with small yellow flecks. Dwarf Forest is a compact selection from Forest which has a slower rate of growth and smaller leaves. Forest was selected from a group of seedling hybrids at the Weyerhaeuser Tissue Culture Center, Plymouth, Florida.

**Dieffenbachia fournieri** (R, TC, L, 6-14)

This dieffenbachia has large, dark green, glossy leaves with a small amount of ivory flecking which rarely provides enough contrast to compete effectively with more colorful cultivars such as Bali Hai or 'Tropic Snow.'

**Dieffenbachia 'Golden Sunset'™** (Patent 7317) (A, TC, L, 8-10)

Golden Sunset dieffenbachia is a compact, large-leaved cultivar with very broad, colorful leaves having a variable pattern of golden yellow to dark green. The younger leaves of this plant tend to be noticeably brighter than the bottom ones which get greener with age. Few basal shoots develop on plants propagated through tissue culture.

**Dieffenbachia 'Hilo'™** (Patent 6858) (A, TC, I, 6-10)

Hilo is a medium size variety that has relatively narrow, dark green leaves, with an ivory midrib that branches onto several lateral veins producing additional pattern in the green background. Hilo develops basal shoots freely.

**Dieffenbachia 'Honeydew'** (A, TSC and TC, I, 6-10)

Honeydew is a very new sport which is believed to have originated from Camille. The leaf coloration pattern is similar to Camille, except the large inner panel is more yellow than the ivory which is common to Camille. Honeydew is a significantly larger plant than Camille and it does not sucker as freely. The plant was discovered at Kel-Lar Foliage, Apopka.

**Dieffenbachia humilis** (R, TSC, S, 6-8)

This species has narrow, lance-shaped, dark green stems and leaves with long petioles. The plant has a fine textured open appearance due to its narrow leaves and long petioles.

**Dieffenbachia maculata 'Angustior Angustifolia'**

(R, TSC, I, 6-8)

This cultivar has long narrow dark green leaves with linear ivory flecks of varied size extending from a solid green midrib. The petioles are long and rosy brown to green at the lamina. The exposed stems are dark reddish brown. Because of its narrow leaves and long petioles, the plant is rather open.

**Dieffenbachia maculata 'Angustior Lancifolia'**

(R, TSC, S, 6-8)

This cultivar resembles Angustior Angustifolia except the petioles are green and shorter and the stem is dark green. The ivory pattern of irregular elongate blotches are oriented with the lateral veins, but located primarily between them in a rather uniform distribution over the lamina.

**Dieffenbachia maculata 'Anne'** (A, TSC, S, 6-8)

Anne, also sold as Anna, has a leaf color pattern similar to Camille except there is an irregular tracery of white around the dark green leaf margin and some dark green flecking which extends from the leaf margin into the greenish yellow inner panel. Anne does not branch as freely as Camille.

**Dieffenbachia maculata 'Camille'** (C, TSC and TC, S, 3-10)

Camille is one of the two most popular of the small, compact dieffenbachias. It has bright to pale yellow leaves with broad dark green margins. The plant produces numerous side shoots with medium to light green stems and leaf bases.

**Dieffenbachia maculata 'Jennmannii'** (A, TC, S, 6-8)

Leaves of this cultivar are narrow, lustrous, medium to dark green with parallel ivory blotches along the major lateral veins. Some attempt is being made to reintroduce this plant as a commercial cultivar.

**Dieffenbachia maculata 'Nelly'™** (Camro', Patent 5657) (A, TC, S, 6-8)

Nelly dieffenbachia is a very highly colored, compact and small-leaved plant. With the exception of the green marginal tracery and several internal flecks of dark green, the rest of the leaf surface is ivory to greenish yellow. Nelly produces an abundance of basal suckers.

**Dieffenbachia maculata 'Pearl'** (R, TSC, S, 6-8)

Pearl strongly resembles Camille except the leaves are slightly coarser and it has a marbled pattern of ivory and green on the petiole.

**Dieffenbachia maculata 'Perfection Compacta'**

(C, TSC, TC, S, 3-10)

Perfection Compacta is an older cultivar which has many basal suckers and variegated leaves with an inner panel of ivory to yellowish green extending outward from the midrib to include approximately half the leaf surface. The leaf border is dark green.

**Dieffenbachia maculata 'Rebecca's Jewel'™** (Patent 6292) (A, TC, S, 3-8)

Rebecca's Jewel, also sold as Rebecca, is very similar in color pattern to Nelly except it tends to have fewer internal flecks and greater vigor during production.

**Dieffenbachia maculata 'Rudolph Roehrs'** (R, TSC, S, 6-8)

Rudolph Roehrs originated as a sport from *D. maculata* in 1936 at the Julius Roehrs Company (Birdsey, 1951). It has the typical single stem growth habit of the species but the new leaves are pale greenish cream with a dark green
margin and midrib. The leaves become darker green with age. Rudolph Roehrs sports back to the species occasionally and a few leaves may be evenly divided along the midrib between the two leaf color patterns. With the introduction of a number of highly variegated, small, self branching cultivars during the 1980’s, Rudolph Roehrs is rare.

**Dieffenbachia maculata ‘Sarah’** (A, TSC, S, 4-8)

Sarah has leaves with a dark green margin and an irregular pattern of green blotches extending from the margin into the inner ivory panel. Ivory constitutes slightly more than half the leaf surface of upper leaves.

**Dieffenbachia ‘Memoria Corsii’** (A, TC, I, 6-8)

This old cultivar has medium sized leaves that include a dark green margin and vein pattern with medium green to silvery green color between the veins. The growth habit of D. ‘Memoria Corsii’ is somewhat open as it ages.

**Dieffenbachia ‘Parachute’™** (A, TSC, I, 6-10)

Parachute is a very new cultivar which sported from Paradise. It has essentially the same variegation pattern as Paradise, but the leaves are more elongate and pendulous, and the margins are wavy. Parachute was discovered by Larry West of Kel-Lar Foliage, Apopka.

**Dieffenbachia ‘Paradise’™** (Patent 6854) (A, TC, I, 6-10)

Paradise dieffenbachia is a medium size plant with stiff, nearly oval-shaped leaves and short petioles closely arranged along the stems. Half or more of the Paradise leaf surface is colored with bright greenish yellow splashes which extend from the ivory midrib to the narrow, irregular, very dark green margin. Although Paradise tends to be a little stiff and upright, it remains full at the base with the development of additional basal shoots.

**Dieffenbachia ‘Silver’** (A, TC, I, 6-8)

Silver is an intermediate size dieffenbachia with a modest tendency to develop basal shoots. Its leaves have a light, greenish yellow center panel, streaked with a water-soaked gray or silver color. Silver originated at Weyerhaeuser Tissue Culture Center, Plymouth, Florida approximately the same time Forest was selected.

**Dieffenbachia ‘Star White’** (R, TC, I, 6-10)

Star White is a new medium size dieffenbachia with a mixed pattern of medium green to silvery green lamina which contrasts with the white midrib and white spots concentrated along the primary lateral veins near the midrib. The white midrib was transferred from Wilson’s Delight which is one of the parents. Star White is the result of five crosses involving nine different parents (Henny et al., 1991).

**Dieffenbachia ‘Starry Nights’™** (A, TC, I, 6-10)

Starry Nights is a new medium size dieffenbachia with a broad, dark green, margin of irregular width and an irregular inner panel of light to medium gray green. The midrib is ivory white and there is a conspicuous splash pattern of ivory spots, primarily in the grayish green areas. Starry Nights has a relatively open growth habit. Starry Nights resulted from five crosses that involved nine different parents. Wilson’s Delight contributed the white midrib (Henny et al., 1989).

**Dieffenbachia ‘Tiki’** (Patent 7298) (A, TC, I, 6-10)

Tiki is a new intermediate size cultivar with leaves having a large, silvery-green inner panel flecked with ivory which gradually changes to dark green at the margin on the upper surface. In contrast, the undersurface is medium to dark green with the ivory fleck pattern continuous with the upper surface. Tiki is unique among the dieffenbachias with regard to colors in the upper leaf surface and the strong color contrast between the two leaf surfaces. The plant produces plenty of basal shoots. Tiki was selected and patented by Dan Vanderlann of Vanderlann Nursery, Inc., Lake Worth, Florida.

**Dieffenbachia ‘Triumph’™** (A, TC, S, 4-8)

Triumph dieffenbachia is a brightly colored, compact hybrid with leaf coloration similar to Camille except the inner panel is more yellow than ivory and the leaves have white midribs and russet and pink petioles. The stem color evident on older plants is also dark russet. Triumph petioles are very short, making the plant especially compact. Triumph was the first commercial dieffenbachia to be developed by Dr. R. J. Henny. Triumph evolved from four crosses using seven different parent plants. The white midrib came from Wilson’s Delight (Henny et al., 1986).

**Dieffenbachia ‘Tropic Star’™** (A, TC, I, 6-8)

Tropic Star is unique among the commercially available, medium size dieffenbachias because it maintains a single stem growth habit which accentuates the long narrow leaves of this essentially yellow variety. The leaf blade is ivory to greenish yellow with a narrow green margin. Green spots are scattered over the yellow center panel and are more concentrated near the margin. Tropic Star was obtained from a cross between D. maculata ‘Perfection’ and D. m. ‘Angustior Lancifolia’ (Henny et al., 1988).

**Dieffenbachia ‘Victory’™** (A, TC, I-L, 6-14)

Victory is an intermediate to large cultivar with a compact habit and plenty of basal shoots. Its broad leaf blade has a greenish yellow inner panel with dark green flecking and margin. Victory leaves have an ivory midrib. The plant was developed by Dr. R. J. Henny and released in 1987. Victory originated from two crosses involving three parents. The first cross between D. maculata ‘Perfection’ and an unidentified green species from Costa Rica with large leaves and good form yielded a plant with large variegated leaves. This plant was then crossed with D. ‘Wilson’s Delight’ and one of the progeny that was selected as most desirable was later introduced as Victory.

**Dieffenbachia ‘Wilson’s Delight’** (R, TSC, L, 8-14)

Wilson’s Delight is an old large-leaved hybrid with broad, dark green leaves accentuated with a prominent white
midrib. This plant has been used by hybridizers to introduce a white midrib into some of the new hybrids such as Triumph and Victory.

In summary, there are many attractive dieffenbachias available to wholesale buyers and consumers of ornamental plants. The descriptive information provided in this article provide useful information for selection of plants for particular markets of interior application based on plant size, foliage texture, color and basal branching habit.

**Literature Cited**


**DELAY OF FERTILIZATION AFFECTS FRUITING RESPONSE OF STRAWBERRY**

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Additional index words: Fragaria × ananassa.

Abstract. Delaying the fertilization during strawberry (Fragaria × ananassa Duch.) growth and fruit production generally reduced early fruit yield during each of 3 seasons. Total fruit yields of ‘Selva’ in 1989-90 and ‘Seascape’ in 1991-92 were also reduced with delayed fertilization. Average fruit weight of ‘Selva’ in 1989-90 and of both cultivars in 1991-92 were reduced by delaying fertilizer application. Percent marketable fruit was not affected by fertilizer treatments.

Most of the fruiting strawberry (Fragaria × ananassa) crop in Florida is provided with part or all of its nutrient needs using granular fertilizer whether irrigated with microirrigation or overhead sprinkler. The amount of fertilizer applied depends on the grower.

At various times we have noticed strawberry plants in small areas of grower fields in need of fertilizer. This situation occurred quite often and usually just after the plants were established. The problem was usually malfunctionary fertilizer equipment or leaching of fertilizer because excessive amounts of rainfall or irrigation (Volk, 1964). We were concerned about the affect of low soil fertility on the fruiting response of these plants. Growers would fertilize these low fertility areas when noticed, and the fruiting response was assumed to be normal. However, studies have shown that plant stress can disrupt the strawberry fruiting response (Albregts and Howard, 1986; Saxena and Locascio, 1968). Thus, our objective was to evaluate the effect of delayed fertilization on the fruiting response of strawberry.

Materials and Methods

Strawberry was grown during the 1989-90, 1990-91, and 1991-92 winter seasons at AREC-Dover on a Seffner fine sand using the annual hill cultural system. For the 1989-90, 1990-91, and 1991-92 seasons, the pre-fertilization pH was 6.6, 6.4, and 6.5 and Mehlich II extractable nutrients were 25, 26, and 25 mg/kg K, 288, 258, and 353 mg/kg Mg, respectively. A factorial with a randomized complete block design was used each season. Plots were 2.6 m long and 1.2 m wide with 16 plants per plot and 5 replicates per treatment. Fruit production beds were fumigated at 392 kg/ha of bed with 16 plants per plot and 5 replicates per treatment. Fruit production beds were fumigated at 392 kg/ha of bed with chloropicrin and mulched with black polyethylene. ‘Selva’ transplants from Canadian nurseries and Florida breeding line 79-1126 transplants from Florida nurseries were grown. The first and second seasons. During the third season ‘Oso Grande’ transplants from Canadian nurseries and ‘Seascape’ transplants from Oregon nurseries were grown. Treatments were the date transplants had access to fer-

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