Studies of Bird-of-Paradise Clonal Selections

Part I. General Characteristics*

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Bird-of-Paradise (*Strelitzia reginae* L.) plants studied in a 20-hectare field of commercial flowers at Encinitas were originally propagated from seed and grown in the Los Angeles area for many years, then divided and replanted at the Encinitas location in 1970. Twenty plants (hereafter referred to as clones) were selected for more intense study. These clones were separated into natural divisions and replanted in a nearby field in April, 1975; planting was in two north-south rows across a west-facing slope. Soil was Carlsbad sandy loam with the top profile at least 30 cm deep. Irrigation was by overhead sprinklers.

Clones were selected for one or more of the following: potential high flower production; increased flower production in off-seasons; good flower color and form; attractive foliage (for cut-foliage sales); short stems with smaller flowers (for bouquet sales); and freedom from physiological defects.

One clone (no. 11) having few desirable characteristics, was included as a control. Several clones were chosen for dwarfness and ability to produce smaller flowers and shorter stems.

In regard to defects, a second (double) flower often developed above the first on the same stem and triple flowers were occasionally observed. Some clones developed stem cracking at the angle of the stem below the flower—flower heads readily broke off stems where these cracks occurred.

Flower petal color varied from pale yellow to deep orange. The "tongue" varied from pale blue to light purple. There were plain green stems and leaves as well as red-colored upper stems and leaves with brilliant red veins. Such characteristics could be emphasized for consumer market potential.

After 2 years the clones were ranked from best to poorest based on ten factors. These factors deemed desirable for future *strelitzia* clones included the highest percentage increase in flowers each year, the shortest flower stems, the highest percent of summer and winter flowers each year, and the highest ratio of flowers to leaves for each year. The four best clones, in order of rank, were numbers 5, 16, 8 and 15. Clone 11, originally chosen for having the fewest redeeming features, ranked seventeenth.

Clone 5 is short, of dense habit, has wide leaves, slender flower stems, medium-size flowers and a green stem neck. This clone produced the most winter flowers in the 2 years of recorded flower production, and had a high ratio of flowers to leaves for both years.

Clone 16 is of medium height, has slender leaves and flower stems, medium size flowers, and a pink stem neck. In the 2 years it produced few double flowers and had a high ratio of flowers to leaves.

Clone 8 is short, has dense growth, slender leaves with bright-red veins, slender flower stems with bright-red necks, and small size flowers. It had good production of summer flowers for both years. Clone 15 is tall, erect, and has other qualities of striking colors similar to those of clone 8.

Average flower-stem length for all clones differed less than 1 cm in the 2 recorded years (Table 1). These data indicate that flower stem length is largely inherited and that vegetative selections for stem length and flower size are possible.

In general, morphology of the clones in the study remained true to that exhibited at time of selection.

TABLE 1. Average flower stem length of Bird-of-Paradise Clones for each of 2 years.

Clone	Average stem length (cm)		Mean S.D. for 2 years
	1976-7	1977-8	
1	71.6	65.3	68.5 + 4.5
2	71.6	65.3	68.5 + 4.5
3	72.5	75.0	73.8 + 1.8
4	75.2	84.0	79.6 + 6.2
5	57.2	66.5	61.9 + 6.6
6	57.3	55.1	56.2 + 1.6
7	80.6	83.6	82.1 + 2.1
8	58.9	60.9	59.9 + 1.4
9	64.2	62.7	63.5 + 1.1
10	53.8	48.9	51.4 + 3.5
11	87.6	80.4	84.0 + 5.1
12	64.9	60.7	62.8 + 3.0
13	78.6	81.2	79.9 + 1.8
15	84.7	83.9	84.3 + 0.6
16	82.6	83.5	83.1 + 0.6
17	73.0	72.0	72.5 + 0.7
18	64.5	62.6	63.6 + 1.3
19	60.2	57.3	58.8 + 2.1
20	79.6	90.2	84.9 + 7.5
21	64.6	60.3	62.5 + 3.0
Average	70.5	70.9	–

*Note: Clone 14 is missing from the study.

However, flower production was quite different among the clones and this will be the subject of a later report.

*Part II, "Flower Production" will appear in the next issue of *Flower and Nursery Report.*

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