Flowering Christmas Cactus

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"Christmas Cactus" formerly known as *Zygocactus truncatus* and also as *Epiphyllum truncatum* is correctly identified by the taxonomists as *Schlumbergera bridgesii*. To add to the confusion a related species often confused, is *Schlumbergera truncata* the "Thanksgiving Cactus."

The "Christmas Cactus," is described as having joints with rounded teeth on the margin; ovary 4–6 angled or winged; anthers purplish (Figure 1).

The "Thanksgiving Cactus" differs in that the joints are saw-toothed, the teeth point forward; anthers yellowish (Figure 2).

Both of these species respond to daylength and temperature conditions for flowering. The "Thanksgiving Cactus" initiates flower buds sooner and produces flowers earlier than the "Christmas Cactus" during the normal blooming season. It has been observed when both species are grown together at 60° night temperature, after the normal blooming season, they will flower almost simultaneously at or near Easter.

Temperature and Daylength

Data recorded from this work and the references are shown in Table 1.

Plants of both species which have been grown in a cold frame or lath house during the summer and early fall flowered earlier than those grown in the greenhouse. The

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Christmas Cactus

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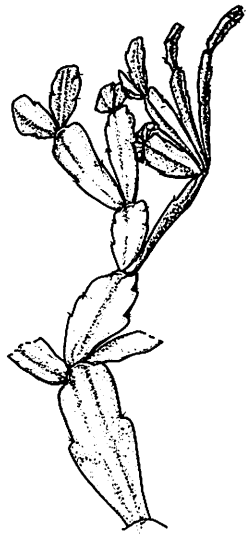

FIGURE 1

Christmas Cactus
Schumbergeria bridgesii

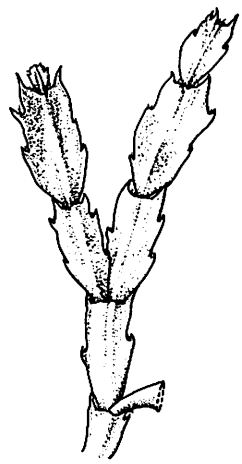

FIGURE 2

Thanksgiving Cactus
Schumbergeria truncata

flower buds on the "Thanksgiving Cactus" were first visible on September 20 in 1965. The flower buds on the "Christmas Cactus" were first visible on October 24, 1965.

To insure a Christmas crop cover the plants with black cloth to produce a 9-hour day on September 15 and grow at a night temperature of 55°–60°. Flowering occurs 2½ to 3 months after the start of short days.

Plants placed at a 60° night temperature and long days before the flower buds are developed will cause a reversal to the vegetative stage and the flower buds will be lost.

Leaf Size and Watering

Other factors seem to influence flowering. The terminal leaves at the time of start of short day were usually at different stages of maturity. The terminal leaves should be the same size and stage of development for uniform formation. Plants which were trimmed before short days, flowered more uniformly than those which were not trimmed.

Withholding watering before the short day period also caused more uniform flowering. However, running the plants drier can delay flowering and usually reduces flower size.

Summary

In addition to this work some of the items in this summary were obtained from the References:

1. Christmas Cactus, *Schlumbergera bridgesii* flowered most rapidly when grown under short days at a 60° night temperature.
2. Flower buds formed at 55° regardless of daylength, but the flowering was erratic and slow.
3. No flower buds form at temperatures above 70°.
4. More uniform flowering was obtained when the plants were trimmed before short day treatment.
5. Flowering problems:

a) Failure to flower—too high night temperature or too long daylength.

b) Uneven flowering—leaves at different stages of growth.

References:

1. Maatsch, R. and W. Ruenger. 1955, Uberdie Blubenbildburg von *Zygocactus* Gartenwelt 10: 153-154.
2. Roberts, and E. Struckmeyer. 1939, Further studies of the effects of temperature and other environmental factors upon the photoperiod responses of plants. Jour. Agri. Res. 59 No. 9 699-709.
3. Post, K. 1949. Florist Crop Production and Marketing. Orange Judd Publishing Co., N. Y. 891 pp.

Table 1. The effect of temperature and daylength on flowering of Christmas Cactus*

Temperature (°F)	Daylength	Flower	Remarks
50°	long days	yes	Flowering was less here at 55° and not all plants flowered.
	short days	yes	
55°	long days	yes	If no black cloth available, this would be the best temperature to use.
	short days	yes	
60°	long days	yes	Probably the ideal temperature to use, but at this temperature it would be best to use short days.
	short days	yes	
63-68°	long days	no	Flowering only under short days.
	short days	yes	
64-69°	long days	no	Flowering only under short days.
	short days	yes	
68-72°	long days	no	Not complete flowering, appears to be right on the border.
	short days	yes	
70-75°	long days	no	No flowering at and above these temperatures.
	short days	yes	
74-76°	long days	no	No flowering.
	short days	no	

*Data in this table was obtained from work by the author and the references.

Grading

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Southeast New York showed persistence in generating information on the returns for various grades of flowers. While the time period over which the data were collected was shorter than desirable, and the number of growers was smaller than originally planned, the resulting data *do* provide a fair indication of likely price relationships over the longer pull.

Several seasons ago a group of researchers in the North Central States proposed a set of grade specifications for carnations and standard chrysanthemums. The four proposed grades, in order of decreasing size of bloom and length of stem, were identified as "purple," "blue," "red," and "green." (These grades now have been modified somewhat and adopted by the Society of American Florists.) Growers in the Cornell study altered their flower handling methods so that these specifications could be followed. Then they shipped their flowers, identified as to grade, to their wholesalers. Their objective was to determine the new grades "price reception" in the market.

The New York City Cut Flower Market developed significant price differences for all grades of both carnations and standard chrysanthemums. The best (purple) grade of carnations returned an average of 40 cents more per bunch (25 blooms) than the average local "mostly" price reported in the U.S.D.A. daily report for the New York City Cut Flower Market. The blue grade of carnations returned an average of 15 cents per bunch more than the local "mostly" base price, while the red grade brought a price about equal to the local "mostly" price.

The purple grade of standard chrysanthemum shipped to wholesale markets by growers in this study brought an average of 85 cents per dozen more than the New York City local "mostly" price. The second best (blue) grade returned an average price that was 45 cents per dozen higher than the base price. The red grade drew 11 cents per dozen less than the base price, while the green grade returned almost 90 cents per dozen less than local "mostly" price used for comparison.

Thus, the New York City market (and some say there's not another like it anywhere) developed a greater price difference between low mum grades than between high mum grads. The price difference between the lowest two grades was about twice that between the highest two grades.

Unfortunately, none of the growers in this study was able to grade only part of his crop while handling the remainder of his production in the usual manner. Therefore, no comparison could be made between returns for the graded and ungraded flowers.

A final point, that of costs, must be considered whenever product handling procedures are altered as in this study. The immediate increase in grower cost resulting from the adoption of new flower grading methods centered in charges for labor. Labor time increased by about 60 percent and represented an additional cost of six cents per bunch of carnations and nine cents per dozen of standard chrysanthemums. It is interesting to note, though, that several months after the grading system had been instituted, labor costs had returned to near the level that prevailed before adoption of the new grading scheme.

Evidence continues to mount in favor of flower grading. Nearby producers—growers close to big primary markets—will come under further pressure as large cut flower interests in distant areas adopt uniform grades. Adoption by local growers can provide an equally competitive tool.

Florida Outlook

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rootstocks, jet transportation, and our ever-shining sun.

The gladiolus acreage will increase as the market warrants. New varieties are being developed. There is work being done to perfect a one time usable bulb that will eliminate digging and storage. New methods of soil fumigation and the use of herbicides will cut costs of production.

Other flower crops that are on the increase are Gypsophila, the largest grower now has 20 acres. Several smaller growers are planning increases. Asters definitely are on the increase this year. Statice acreage somewhat larger this year. Delphinium is to be increased this coming year. Iris planted mostly in North Florida, expected to remain at the same level. Several growers are planning to expand Gerbera Daisy acreage, using imported seed. Stephanotis has been grown for quite some time but growers haven't found out how to time the production, but they will. Lilies are being increased as grower's planting stock increases.

Florida's cut flower production will definitely be on a constant increase as the demand for our products continue to grow. Many growers are constantly seeking new markets such as exports and supermarket sales.

We are not too concerned with foreign competition as yet. I have seen good crops in Guatemala, Bahama Islands and Jamaica. I know of large plantings that are being established in Panama and Colombia, South America.

I know that as long as the sun shines in Florida, there will always be flowers available in some quantity, mostly, More! More More!

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