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Producing Holiday Cacti for Profit, A Commercial Growers Guide
Michigan State University Extension Service
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Issued September 1983
4 pages

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Producing Holiday Cacti For Profit

A Commercial Grower's Guide

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I. Introduction

- A. Plants in the genus *Schlumbergera* normally flower in late November to early December. Historically, flowering was often close to Thanksgiving and Christmas, and therefore the names, Thanksgiving and Christmas cactus.
- B. Confusion exists in the description of these plants. Two species exist, *S. bridgesii* and *S. truncata*.
 1. The Christmas cactus is *S. bridgesii* and is characterized by having small, smoothed-edged segments (phylloclades).
 2. The plants most often sold as Christmas cacti are actually Thanksgiving cacti, *S. truncata*. They are characterized by segments with toothed or jagged edged joints. Flowers appear under natural photoperiods earlier than on *S. bridgesii*.
- C. The plants are epiphytic cacti native to a small region in the Organ Mountains north of Rio de Janeiro, Argentina, South America.
- D. *S. truncata* grows in the rain forest at an altitude between 3000 and 5000 feet, rooting into plant debris trapped among branches or on decaying humus on the ground in stony, shady places. In their native habitat, rainfall varies from 17 inches per month from December to March, to 3 inches a month in the dry season. The photoperiod varies from 11 hours to 13.5 hours on an annual basis.
- E. *S. bridgesii* originated at somewhat higher altitudes in the mountains and in cooler, drier, wooded areas.

II. Cultivars

- A. Most cultivars grown today are patented varieties of *S. truncata*. Some cultivars include:
 1. Christmas Charm—Purple flowers (P)



The holiday cacti as it should appear when ready for market.

2. Christmas Magic—Purple flowers (P)
3. Gold Charm—Yellow flowers (P)
4. Kris Kringle—Red flowers (P)
5. Lavender Doll—Lavender flowers (P)
6. Peach Parfait—Peach flowers (P)
7. Red Radiance—Red flowers (P)
8. Twilight Tangerine—Orange flowers (P)
9. White Christmas—White flowers (P)
10. Maria—Red flowers (P)
11. Snowfire—White flowers (NP)
12. Sonja—Light lavender flowers (NP)
13. Red Beauty—Red flowers (NP)
14. Sabrina—Dark purple flowers (NP)
15. Majestic—Royal purple flowers (NP)
16. Christmas Cheer—Orange-red flowers (NP)

P = patent varieties

NP = non-patent varieties

III. Flower Induction Requirements

- A. Two separate methods can be used to induce flowering: temperature and photoperiod.
 1. Temperature
 - a. Night temperatures should be maintained at 55°F (13°C) to induce flowering with temperature.

- b. Plants remain vegetative at temperatures above 60°F (16°C) under long day conditions (light span greater than 12 hours).
- c. Night temperatures greater than 80°F under short days or less than 50 to 52°F under any photoperiod delay flower initiation.

2. Photoperiod

- a. Plants can be induced to flower using short photoperiods (less than 12 hours of light) at temperatures above 60°F (16°C).
- b. Plants can be kept vegetative during the short days of winter by maintaining a temperature above 60°F (16°C) and lighting the plants during the middle of the night for at least two hours with 5 ft-c.
- c. Flowering occurs 9 to 10 weeks after the start of flower induction at 55°F (12°C). When induced to flower under short days at 65°F (18°C), plants can be sold with tight buds 6-7 weeks after the start of short days.
- d. Flower buds should be just visible to the naked eye 3-4 weeks after the start of flower initiation.
- e. Application of 100 ppm benzyl-adenine (BA) about 7-10 days after the start of flower initiation increases flower bud number. The BA will not substitute for cool temperatures or short days.
- f. Research has shown that drying the growing medium during flower induction decreases flower bud number. In addition, flower initiation and development is not hastened.

IV. Environmental Requirements for Plant Growth

- A. Plants can be grown under full sunlight in late fall, winter and early spring, but should be shaded during summer.
- B. Vegetative plant growth is optimal at 65-70°F; plants should not be grown below 60°F.
- C. Christmas and Thanksgiving cacti originated from relatively moist environments. Therefore, plants should be grown moist to obtain maximum growth. However, the growing medium should have high porosity to prevent root rots.
- D. Plants have a relatively low nutrient require-

ment. Watering with 100-120 ppm N, 20-25 ppm P, and 80-100 ppm K once a week is acceptable.

- E. Supplemental nutrition should be stopped about one month prior to the start of flower induction.

V. Cultivation

A. Propagation

- 1. Plants are propagated by stem cuttings, often consisting of one stem segment. Two or three of these stem segments are generally rooted in a small cell pack at one time.
- 2. Temperature of the rooting medium should be maintained at 70°F (21°C).
- 3. Propagation occurs during November and December.
- 4. Cuttings can be obtained from stock plants just prior to propagation or from plants during the "leveling" process (see V.E.).
- 5. If a terminal segment is not mature, it should be discarded. Segments below the terminal shoot are then removed and rooted.
- 6. Cuttings should be rooted under long days to promote vegetative growth. Use night interruption lighting for three hours at 5 to 10 ft-c. (Light from 11:00 p.m. to 2:00 a.m. is adequate).

B. Medium and planting

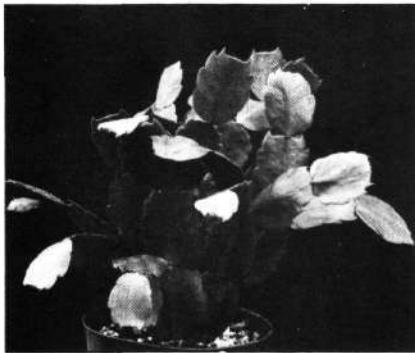
- 1. Plants should be planted in a medium that is high in organic matter with good drainage.
- 2. The pH should be 5.5-6.0.
- 3. Typically, 3 cuttings of segments are transplanted to a 4" pot after the cuttings have rooted and started growing. This is normally in late March or early April.

C. Spacing

- 1. Plants can be grown pot to pot during most or all of the forcing period depending upon final size.
- 2. Plants can also be grown in hanging baskets.

D. Pinching

- 1. It is possible to grow plants without pinching. However, higher quality plants can be produced with pinching.
- 2. Newly propagated cuttings will often only produce one new shoot after rooting. By removing this single shoot, one can often



WEEK 1



WEEK 2



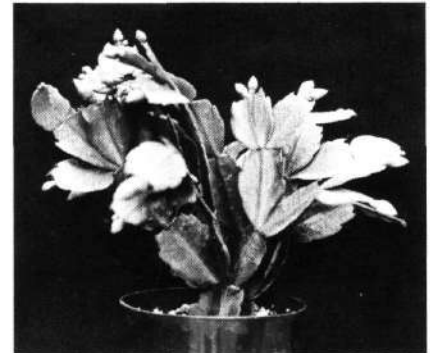
WEEK 3



WEEK 4



WEEK 5



WEEK 6



WEEK 7



WEEK 8

B. Nematodes

1. Christmas cacti can be attacked by *Heterodera cacti*. Heavily infected plants are stunted, exhibit reddish-colored stem tops and are unsalable.
2. The nematodes can be particularly severe under conditions where sub-irrigation is used, allowing the movement of the nematodes among pots.

C. Insects

1. Caterpillars can be a serious pest.
2. Fungus gnats can also cause problems if populations are high.
3. Do not use Diazinon on plants as severe stunting and distortion can occur.

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O-14355