Crop: Streptocarpus, Cape Primrose
Scientific Name: Streptocarpus x hybridus (Gesneriaceae)

I. Introduction

A. Streptocarpus belong to the same family (Gesneriaceae) as African violet and Gloxinia. The production requirements are similar for these 3 crops.

B. Most varieties in production are hybrids of *S. parviflorus, S. rexii, S. dunni* and *S. wendlandii,* which originated from the humid sub-tropics of South Africa.

C. The cape primerose is a popular pot plant in Europe. It is a minor crop in the US, although the production is increasing.

II. Species, Cultivars, Breeding, Development

A. *S. x hybrida* utilizes the color of *S. dunni,* the bushiness of *S. rexii* and the stem strength of *S. wendlandii.* They have trumpet shaped flowers in a wide color range (white to blue to violet).

B. Cultivars and strains:

1. 'Concorde' (bred by Floranova) was the first F_1 hybrid series. Plants are early flowering and show good uniformity.

2. 'Nymph' series (developed in England). These clones have many small flowers throughout the year.

3. 'Holiday' hybrids (F_1 hybrid series by Park Seed) are tolerant of temperature and light extremes. They are early flowering, everblooming, uniform and have long-lasting 6-9 cm (2 1/2 - 3 1/2 inch) large flowers.

4. 'Weismoor' hybrids (bred by Carl Fleischmann of West Germany) are the first seed-grown plants with uniform flower type. Flowers vary in size from 4 to 5 cm (11/2 to 2 inches).

5. Mikkelsens, Inc. has developed the Olympus series.Cultivars include 'Wapline', 'Athena', 'Adonis', 'Neptune', 'Juno', 'Thor' and 'Venus'.

III. Flower Induction Requirements

A. Flowers develop as the plants grow and form leaves.

B. Optimum light intensity for flowering is the range from 1,000 to 3,000 foot-candles (200 to 600 μmol $s^{-1}m^{-2}$).

C. Best flowering occurs under conditions of high light intensity and long days.

D. Plants grown under long days (15 hours of light) produce more flowers than those under short days (9 hours).

IV. Environmental Requirements

A. Light

1. Plants can be maintained from 150 to 6,500 foot-candles (30 to 1,300 μmol $s^{-1}m^{-2}$). Optimum overall growth will only occur in the range from 500 to 4,200 foot-candles (100 to 840 μmol $s^{-1}m^{-2}$).

2. The greenhouse need to be shaded during spring and summer to facilitate temperature control and to avoid high light plant damage. The maximum light level should be below 2,000 foot-candles (400 μmol $s^{-1}m^{-2}$). At higher light levels, ring spotting and bleaching can occur on the foliage.

B. Temperature

1. Fastest initial development occurs when plants are started at 18-21°C (65-70°F) for 2 to 3 weeks.

2. Best growth and subsequent flowering occur when night temperatures are between 16-18°C (60-65°F) with day temperatures below 27°C (80°F).

3. Night temperatures may approach the upper level (18°C, 65°F) under high light conditions.

C. Water

1. Allow streptocarpus to dry slightly between waterings. The fine root system can easily be over watered.

2. Cold or alkaline water on leaves cause ring spotting.

D. Nutrition

1. Feed weekly with 100 ppm 20-20-20. When plants are flowering, feed once every two weeks with 50 ppm 20-20-20.

2. Streptocarpus can easily be over fertilized.

E. Gases

1. Carbon dioxide enrichment is helpful to encourage more rapid growth.

V. Cultivation

A. Propagation

1. Streptocarpus can be propagated by seed, leaf cuttings, offsets or divisions.

2. Seed or leaf cuttings are used commercially.

3. Seed propagation

a. Streptocarpus seed is extremely small (900,000 to 1,800,000 per ounce).

b. Sow the seed on a fine particle mix such as peat:vermiculite.

c. Do not cover the seed, since they require light to germinate.

d. Keep the temperature at 20-22°C (68-72°F) for best germination.

e. Germination will occur in 10 to 20 days.