

AS A RETAIL GROWER ARE YOU . . .

. . . looking for a pot crop to fill in your offering to the late winter customer? Here's a sampling from *Florist Review*.

CALCEOLARIAS—An unsuspected member of the snapdragon family (*Scrophulariaceae*) is the calceolaria. Snaps and purse plants seem quite different, but a close examination of an individual floret will show their many similarities. They also have many environmental requirements in common. The small seed germinates readily in 8 to 10 days at 18° to 20° Centigrade (65° to 70° Fahrenheit). Damping-off is a serious problem if soil is not sterilized and seed is planted very sparsely. A cool temperature is needed for flower initiation, so few are seen on the market during the summer. They should be started, however, so they will be of sufficient size to be ready for cooling (down to 10°C or 50°F) in the fall.

Calceolarias are of two main types. The hybrids are propagated from seed and are considered annuals. They have much larger foliage that may hold moisture and are thus subject to rot, if poorly ventilated. The other type is shrubby, with small flowers and foliage that is less prone to compaction and rot. Shrubby types are tender perennials that are propagated by cuttings. The stock plants prefer cool temperature, so they are usually kept over the summer in northern climates. The small plants are then shipped to southern growers in September or October.

The hybrids of calceolaria (*C. Herbeohybrida*) are subdivided into four types, each containing several varieties or mixtures. The largest are grandifloras which have 1½- to 2-inch wide flowers on 18- to 24-inch plants. A second type is *Grandiflora primula compacta*, which has a similarly sized flower, but on plants of only half the height. *Multiflora* is the third type, with more, but smaller, flowers (1¼- to 1½-inch on 12- to 15-inch plants.) The fourth is *Multiflora nana*, having smaller flowers (1-inch or less) on about the same size plants as *Multiflora*. Some of each kind should be grown the first time, with possibly a little heavier production of the smaller-flowered kinds.

CAMPANULAS—Larson's *Introduction to Floriculture* (Academic Press, 1980) describes the culture of a lesser-known campanula (*C. isophyla*) as a potted plant for specimen or hanging baskets. Its common names are Italian bell, Star-of-Bethlehem or falling star. This campanula is blue, as are 'Caerulea,' 'Mayi' and 'Blao.' A white cultivar is 'Alba.'

The Italian bells are propagated from cuttings of stock plants kept vegetative under short days (12 hours). Long days (fluorescent light preferred) are needed for flower

bud initiation, and must be continued through flowering. Longer days (16 hours) are needed at 12° to 15°C (54° to 59°F), or 14 hours at 21°C (70°F). One cutting per 10-centimeter (5-inch) pot is sufficient to produce a salable plant in 20 to 25 weeks from the day the cutting is struck. An IBA (indole butyric acid) dip of five seconds in a 1,000 ppm solution aids the rooting process. A growth retardant (daminozide spray at 2,500 to 5,000 ppm) may be needed one week after the start of long days, especially for 'Alba.'

PRIMULAS (*P. malacoides* and *P. obconica*) are started from seed in June and July for the larger-size pots next winter. Seed must be sown on top of the soil, without covering, since light is essential for germination. The most appropriate temperature is between 16° and 24°C (60° to 75°F), with best results at 21°C (70°F). Later, they may be grown cool (5° to 7°C or 41° to 45°F), until flower buds appear. The temperature should then be raised to 13°C (55°F) for forcing. Over-watering causes rot and leaf-spot diseases. Be alert for the evidence of aphids, red spider mites and leaf-eating caterpillars, and use preventive measures regularly.

STREPTOCARPUS, the Cape primrose, is a good companion for African violets. Both belong to the botanical family *Gesneriaceae* and cannot tolerate sun. Provide no more than 15 to 20 kilolux (1,500-2,000 footcandles) at any time, and violets prefer a little less light (10 to 13 klx). Cape primroses are propagated either from seed or leaf (piece-leaf) cuttings. Seed is used for the mixtures such as 'Weismoor,' but the 'Nymph' series and other named cultivars are true only by vegetative propagation. The seed is very fine and should not be covered. It should be germinated at 16° to 18°C (65° to 68°F) and given light as indicated above.

The propagation of streptocarpus by leaf cuttings is different. Cut the leaf blade in two parts lengthwise by removing the mid-rib. Make an incision in the rooting medium (not acid peat) and stand the cutting with the cut edge down into the incision. Small plantlets will form along the cut edge in about two months, and are ready to pot in three. Streps prefer a less acid potting soil than African violets, so add some dolomitic limestone, if an African violet mix is used. Keep the fertility level moderate, at about 100 to 125 ppm nitrogen in the constant fertilization program.

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