

Cacti and Succulents

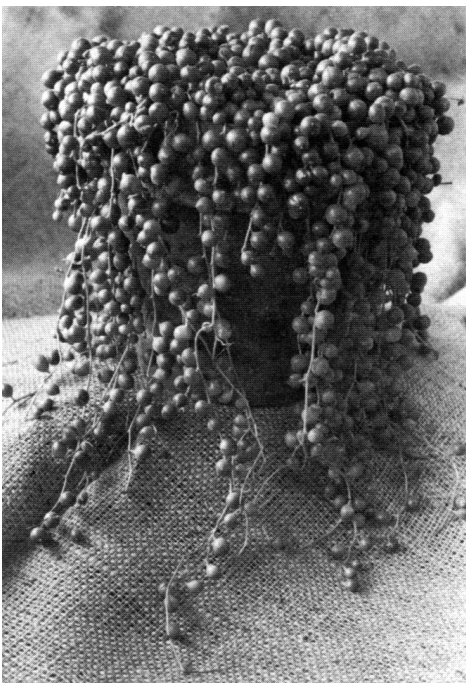
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Horticulture

Houseplant enthusiasts are looking continually for different and more exotic specimens for their collections. Fortunately, beginners and experts can find many good choices among the cacti and succulents.

The term succulent refers to a broad, loose category of plants, including cacti, which have developed thick fleshy leaves or stems. These serve as water storage organs to insure survival under arid conditions. Succulents are found worldwide. Besides cacti, they include many familiar plants: the jade plant (*Crassula arborescens*), the snake plant (*Sansevieria trifasciata*), the medicine plant (*Aloe barbadensis*), the century plant (*Agave americana*), the flowering Kalanchoes (*Kalanchoe blossfeldiana*) sold as gift plants as well as the sedums (*Sedum* sp.), and hens and chicks (*Sempervivum* sp.) so common in the perennial garden.

The cactus family has nearly 2,000 species, and with one exception all are native to the Americas. They range from the Arctic Circle to the mountains of Chile, but are most abundant in southwestern United States and Mexico. Cacti can be tall and lanky or squat and spherical, frequently without any branches and almost always without leaves. These shapes result in a large proportion of internal tissue to external surface area which reduces the amount of moisture that is lost through the plant itself. They often have scale or spines ranging from microscopically small to wickedly large and barbed. These protect against predators and are thought to aid the plant in withstanding hot drying rays of the sun.

Many cacti and succulents are extremely well adapted to living in houses where the relative humidity is low (10-30 percent). They require only modest amounts of water and fertilizer, but do need abundant light. They should be placed in a bright, sunny window.



This popular succulent, *Senecio rowleyanus*, is called string of pearls because of its spherical modified leaves.

Insufficient natural light can be augmented by artificial lighting. A cool white fluorescent tube, or a combination of daylight and natural white fluorescent tubes will give good results. Position them 6-12 inches above the plants, and keep them on for 14-16 hours each day.

In nature, most cacti and succulents are found growing in open, well-drained sandy soil. These conditions should be duplicated indoors. A mix of one part potting soil and one part coarse sand is usually porous enough. A good test is to moisten the mixture and squeeze it in your hand. On release, the soil should fall apart. Both pot and growing medium should be sterile. Ideally, these plants should be grown in pots with drainage holes because excess water trapped in the soil will result in rotting and decay in a very short time.

During the low-light winter months, cacti and succulents should be watered only enough to prevent shrinking and withering. When watering, do it thoroughly. Water should flow through the drain holes, and the excess should be discarded after a few minutes. A series of repeated shallow sprinklings often results in distorted growth. As the amount of light increases in the spring, so does the plant's need for water. The soil, however, should always be allowed to dry out completely between waterings.

Cacti and succulents have relatively low nutrient requirements. Cacti need fertilizer only once or twice a year during the late spring or summer when they are actively growing. Use a houseplant food that is higher in phosphorus than nitrogen, diluted to half the recommended rate. Other succulents may be fertilized in the same manner three or four times during the brighter months.

You may be able to bring your cacti and succulents into bloom indoors if you can approximate their native winter conditions. This involves a combination of good light, dry soil, and cool nights. Often a windowsill location will give the necessary light and cool night temperatures. Some cacti that are relatively easy to flower indoors are species of *Mammillaria*, *Gymnocalycium*, *Lobivia*, and *Rebutia*. (Don't be fooled by the presence of tiny, brightly colored straw flowers commonly stuck into the tissue of small cacti sold commercially).

Many cacti and succulents benefit from spending the summer months outdoors. Once the weather warms up they should be placed in a semi-shaded, protected area of the yard and then gradually moved to a sunnier location. Avoid locations where they will receive the hot, intense sunlight from 11 a.m.-3 p.m. Once outdoors, these plants will require more water and so should be checked regularly.

Often cacti and succulents are grouped together in shallow dish gardens. While this may be an extremely attractive method of display, several precautions should be taken. Choose plants that are compatible in rate of growth so that one or two plants don't outgrow the rest. Even more important, the plants must have similar water requirements. Generally speaking, most cacti need less water than do other succulents. Since these shallow dishes seldom have drain holes, it is essential that the plants aren't overwatered. Broken clay pot shards or coarse gravel at the bottom of the container may provide a bit of drainage, but excess moisture will eventually be drawn back into the soil, which may keep the roots wet too long.

Cacti and succulents are not troubled much by pests. If they have mealybugs or scale, the problem can be controlled by wiping them off with alcohol-dipped cotton swabs. Fungal or bacterial rots can

almost always be prevented by maintaining adequate cultural conditions--bright light and proper watering.

Cacti and succulents can be propagated easily by stem cuttings. Many succulents will form new plants from leaves which have been broken off. Allow the cutting wound to air dry before sticking the cutting into slightly moistened, sterile sand. Water sparingly since moisture retention is not a problem. When the roots have formed, transplant into the regular sand and potting soil mixture.

Since cacti and succulents are diverse, consult a textbook regarding the specific requirements of individual species. Libraries and bookstores have many well-illustrated books to aid in plant identification.

HOLIDAY CACTI

Christmas Cactus (*Schlumbergera bridgesii*), Thanksgiving cactus (*Schlumbergera truncata*), and Easter cactus (*Rhipsalidopsis gaertneri*) do not have the typical requirements of most succulents. "Although true cacti, they are epiphytic in nature, growing in the branches of trees in their native tropical forest rain habitats. The need for high humidity, bright but filtered light, and soil kept relatively moist most of the year sets these plants apart from the majority of cacti and succulents.

Holiday cacti bloom at different times of the year, but all require short days and cool night temperatures to initiate flower buds. In fall these plants should be kept in a bright location where the temperature drops to 55-65°F at night, rising 5-10° in the day. With 55°F night temperatures they will bloom in 5-6 weeks. If the night temperature is 60-65°F, these plants must have at least 12 hours of complete darkness every night for about 6 weeks in order to bloom. At higher



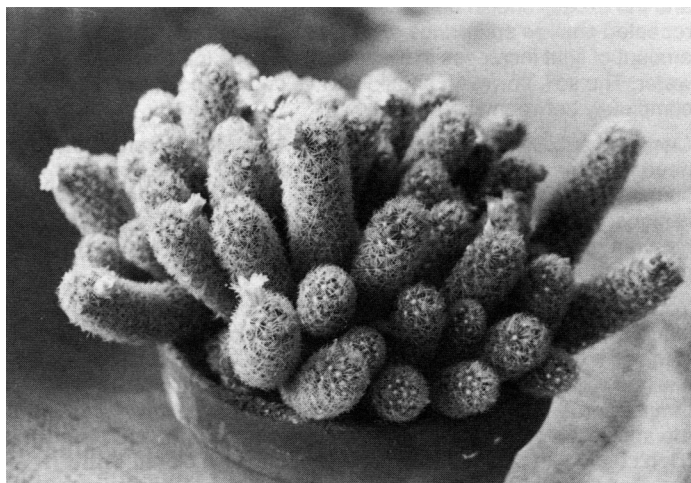
Christmas cactus, *Schlumbergera bridgesii*, has large, delicate flowers at holiday time.

night temperatures it is unlikely that they will bloom at all. Keeping the plants outdoors in a protected location until just before frost danger will result in abundant blooms, provided there's a cool, bright spot for them when brought indoors.

Holiday cacti should be potted in a standard cactus soil mix and watered thoroughly. Allow the soil to dry a bit between waterings. After they have finished blooming water less frequently, increasing again in spring or early summer when the plants resume more active growth. Fertilize several times with a dilute balanced house plant fertilizer during the bright light months, changing to a low nitrogen, high phosphorus and potassium formulation in the fall when flower buds are forming.

Once the buds have started to develop, holiday cacti do not like to be disturbed. Drafts or sudden changes in temperature or humidity--or even the direction of sunlight they receive--can result in dropping buds. If the plants are to be displayed in a warmer room than the one in which the buds were initiated, move them there as soon as the buds appear. As long as there is adequate light and a relatively cool night temperature they should continue to develop normally and will reward you with spectacular blossoms.

Growing cacti and succulents can become a fascinating hobby, one with maximum return for minimum effort.



Cacti in the genus *Mammillaria* are among the easiest to bring into bloom indoors.