INCREASING GROWTH OF SUCCULENTS

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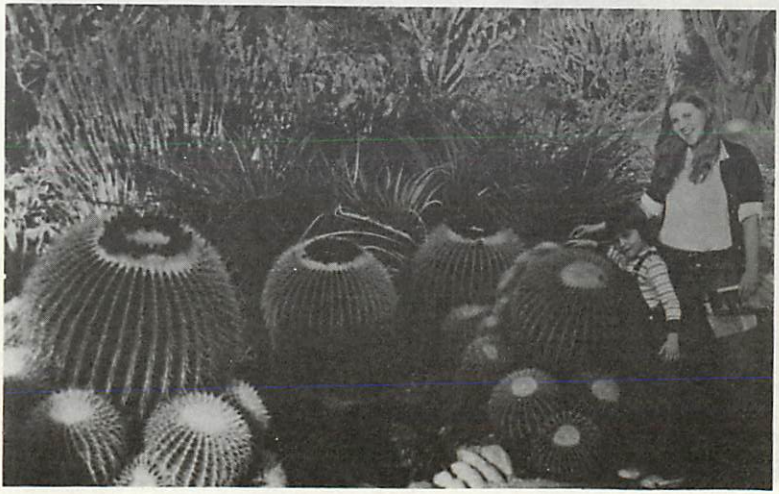
When we think of succulents, we think of a group of plants growing in warm, dry habitats with minimal rainfall and desert-like conditions (Figures 1 & 2). Horticulturally, succulents denote those plants with large, fleshy leaves or stems capable of storing water. Numbered in at least 20 different plant families, many are desert plants or certainly inhabitants of dry areas. The numerous cacti are examples, but others commonly grown include the popular Aloe, Agave, Crassula (Jades), Echeveria, Sempervivum, and Sedums. Since succulents have adapted so nicely to adverse conditions, it is easily understood why they make such superb houseplants. Where other plants fail in the hot, dry atmosphere of New England homes, the succulents often succeed.

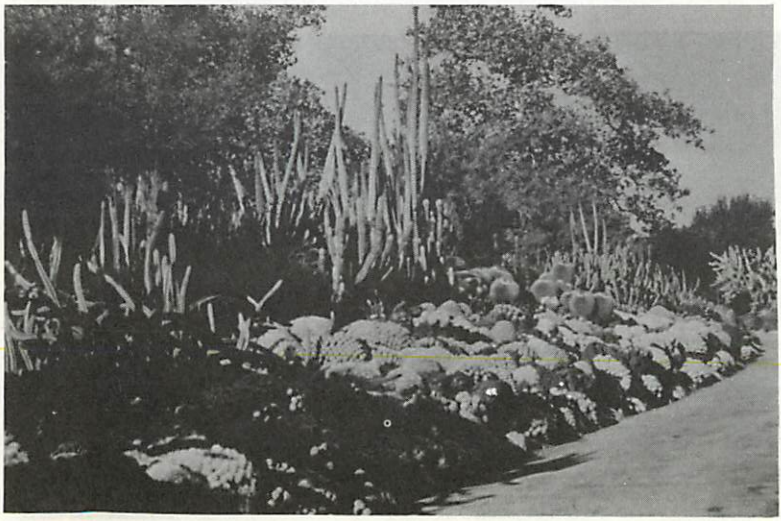
Succulents, beside being attractive plants, have the interesting capability to do something that other plants don't; to assimilate carbon dioxide both in

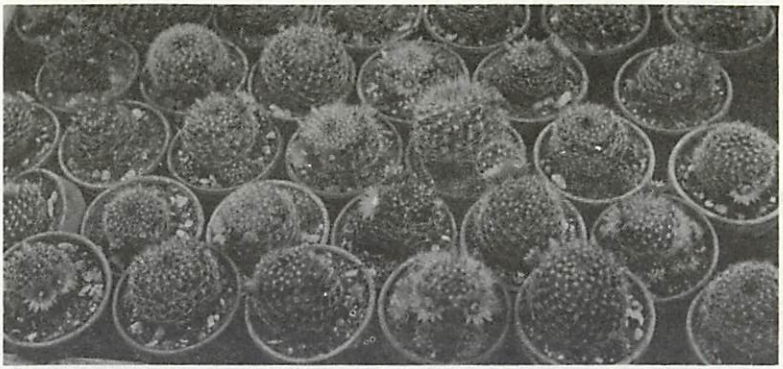


the day and night. This feature is called CAM, for Crassulacean Acid Metabolism. The fleshy leaf and stem anatomy of succulents and their ability to take in CO_2 at night enable them to adapt to a wide range of climatic and soil conditions. Succulents in their natural environment adapt well to drought and extreme temperatures.

Today, succulents have become a profitable group of plants with considerable commercial value. According to Dr. H. Max Vines, (1977), commercial greenhouse growers can produce larger plants in a shorter time by changing the generally accepted commercial practice of low fertility and limiting water to include weekly applications of fertilizer and adequate water. The following method was used to increase Crassula growth in Georgia, but should apply to many other succulents.

1. Start with a two to four leaf terminal cutting, allowing it to callus for three to five days prior to sticking.





2. Stick cuttings directly in four-inch pots containing an amended peat-lite medium. No rooting hormone was used.

3. Plants were placed in a fiberglass greenhouse with day temperatures ranging from 75 to 85 degrees F and night temperatures 50 to 70 degrees F. (See paragraph below.)

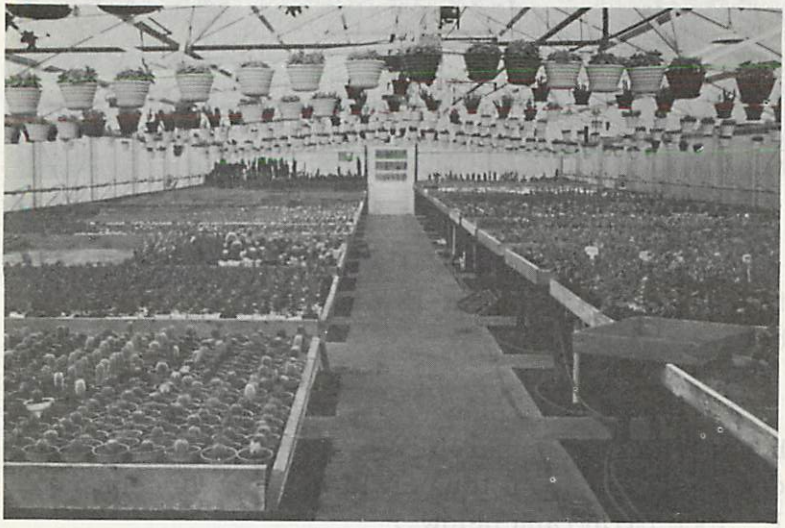
4. About one-half cup of water (100 milliliters) was applied to each pot each day at 7:00 a.m. controlled by a time clock and solenoid valve through a spaghetti system.

5. Fertilizer (Peters Nutrient Solution 20:20:20) was applied once a week. (Ed. note: Try 150 ppm N.)

With this method the small original cutting should be one foot tall in six months time, thus cutting production time in half. This may be an interesting method of increasing growth on an otherwise slow growing group of plants.

For Connecticut, growth is minimal during midwinter so Crassulas may be placed in a cool house and left undisturbed during November-February.

Optimum temperatures for propagation are about 70°F night, 75-80°F during the day. Growing temperatures after rooting should not be below 60°F at night.



Literature Cited:

1. Vines, H.M. 1977. Grow Larger Jade Trees. Commercial Flower Growers' Notes. (GA) 10/77:7.